



U.S. Department
of Transportation

National Highway
Traffic Safety
Administration

400 Seventh Street, S.W.
Washington, D.C. 20590

Dear Crash Data Researchers/Users:

Thank you for choosing crash data from the National Highway Traffic Safety Administration (NHTSA) for your research or other use. The information contained in this motor vehicle crash report is collected, maintained and distributed in accordance with Public Law 89-564. In accordance with this Public Law, NHTSA is required not to release any case information until completion of quality control procedures. These procedures include a review of the case material to extract all names, licenses and registration numbers, non-coded interview material, non-research related researcher comments in the margins, non-factual data, and the production number portion of the vehicle identification number (VIN).

If you requested NHTSA to query its database files in order to identify a specific crash, then that query was made using non-personal descriptors you provided for use in our search. This motor vehicle crash may have been identified from a data search and matches the general, non-personal descriptors you provided, but we cannot confirm that this is the specific crash report you requested.

If you have any questions with regard to the above procedures, please contact the Field Operations Branch, Crash Investigation Division, National Center for Statistics and Analysis at 202-366-4820. Again, please be advised that we cannot confirm that this is the case that you have specifically requested nor can we certify the information to be correct.

*** *** ***



AUTO SAFETY HOTLINE
(800) 424-9393
Wash. D.C. Area 366-0123

DYNAMIC SCIENCE, INC.
In-Depth Accident Investigation

Contract DTNH22-94-D-27058
Case DSI-95-AB-024

1996

TECHNICAL SUMMARY

CONTRACTOR: Dynamic Science, Inc.
CONTRACT NUMBER: DTNH22-94-D-27058
CASE NUMBER: Case DSI-95-AB-024

This case initiated in response to a report that the airbag in this vehicle did not fully deploy or did not deploy properly.

This single vehicle collision occurred during the mid-afternoon hours of a fall weekday. The weather was clear and the roadway was dry.

Vehicle 1 was a 1995 Mazda Miata being driven by a 24-year-old female. The driver had just completed some business at a shopping center bank. To exit the shopping center, the driver would have had first to drive south for approximately 105 m (345 ft), then west for approximately 35 m (115 ft) until reaching a three-leg, signaled intersection.

According to the driver, as Vehicle 1 was traveling south it bottomed out on a rain gutter. This swail was 33 m (107 ft) from the bank exit. It is 83 cm wide, 4 cm at its deepest point, and it extends across the entire roadway. Vehicle 1 continued on, turning right to go west. The vehicle entered the intersection on a green light and was in the process of turning left when the airbag partially deployed. This caused the driver to lose control and mount the center median.

The on-scene inspection of the scene and the case vehicle describe a different set of events in this case than those provided by the driver. There is no evidence, on the vehicle or on the road surface, that the vehicle bottomed out on the rain gutter. The damage sustained by Vehicle 1 is entirely consistent with a typical undercarriage airbag-deploying impact. There is clear evidence within the vehicle which points to a full deployment (i.e., airbag contact with the driver's side visor).

It is the opinion of this investigator that the driver of Vehicle 1 entered the intersection attempting to turn south. The driver turned too soon and overrode/impacted the center median at an approximate speed of 40 km/h (21 MPH). The airbag deployed at this time. The driver sustained contusions/swelling to both hands due to contact with the deploying airbag. Vehicle 1 came to rest on the median. The driver was not treated at the scene, but did later see a private physician. A bystander moved Vehicle 1 by driving it over the median. The deployed airbag was folded back into the module and it was taped down using gray duct tape. The vehicle has since been driven to a Mazda repair shop.

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The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the National Highway Traffic Safety Administration.

The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points be coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

DYNAMIC SCIENCE, INC.
ACCIDENT INVESTIGATION
CASE NUMBER: DSI-95-AB-024

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ACCIDENT DATA:

Location:

Area/Type:

Urban

Date/Time:

Fall/Midafternoon

Accident Type:

Vehicle versus fixed object

Injury Severity:

Vehicle 1:

AIS=1

AMBIENCE:

Viewing Conditions:

Good

Cloud Cover:

Clear

Precipitation:

None

Road Surface:

Dry

ROADWAY:**VEHICLE 1**

Type:	Divided traffic way, 1-lane westbound
Width:	7.1 m (23.6 ft)
Traffic Density:	Moderate
Median:	Curbed
Edge:	Curbed on left, curbed on right
Surface:	Asphalt
Reported Defects:	None
Co-efficient of Friction (est.):	0.70
Vertical Alignment:	Negative grade
Horizontal Alignment:	Straight

TRAFFIC CONTROLS:**VEHICLE 1**

Signals:	Tri-color, 3 phase traffic light
Signs:	None applicable
Speed Limit:	None
Markings:	None applicable

VEHICLES:**VEHICLE 1**

Description:	1995 Mazda Miata
Odometer:	18,923 km (11,761 mi)
Engine:	I4 / 1.8 L
Vehicle Modifications:	None
Tire Condition:	Good
Manual Restraints:	3-point manual, lap/shoulder restraints at the L/F and R/R seating positions
Automatic Restraints:	Supplemental restraint system (driver's side airbag)
Reported Defects:	None
Cargo:	None
Windshield Damage:	None
Fleet:	NA
Tow Status:	Driven from scene

VEHICLE DAMAGE:

	VEHICLE 1
Object Struck:	Concrete median
Event Number:	01
CDC:	12UDDW2
Maximum Crush:	2 cm

VEHICLE VELOCITY ESTIMATES:

	VEHICLE 1
Impact Speed: (estimated)	34 km/h (21 MPH)
Total Delta Vehicle:	Unknown
Longitudinal Delta Vehicle:	Unknown
Lateral Delta Vehicle:	Unknown
Energy Dissipation:	Unknown

Calculate speed from stop at intersection to impact with median using 4 ft/sec/sec as an acceleration rate.

$$S = \sqrt{2aD}$$

where

S = speed after acceleration

a = acceleration rate

D = distance

Substituting/solving:

$$S = \sqrt{2 * 4 * 56} = 21.1 \text{ MPH} = 33.9 \text{ KPH}$$

COLLISION SEQUENCE:

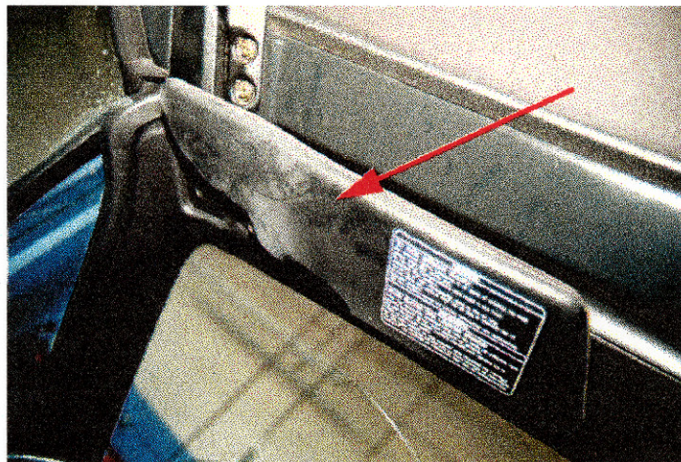
Pre-Crash: This single vehicle collision occurred during the mid-afternoon hours of a fall weekday. The weather was clear and the roadway was dry.

Vehicle 1 was a 1995 Mazda Miata being driven by a 24-year-old female. The driver had just completed some business at a shopping center bank. To exit the shopping center, the driver would have had first to drive south for approximately 105 m (345 ft), then west for approximately 35 m (115 ft) until reaching a three-leg, signaled intersection.

Crash: According to the driver, as Vehicle 1 was traveling south it bottomed out on a rain gutter. This gutter was 33 m (107 ft) from the bank exit. It is 83 cm wide, 4 cm at its deepest point, and it extends across the entire roadway. Vehicle 1 continued on, turning right to go west. The vehicle entered the intersection on a green light and was in the process of turning left when the airbag partially deployed. This caused the driver to lose control and mount the center median.

The on-scene inspection of the scene and the case vehicle describe a different set of events in this case than those provided by the driver. There is no evidence, either on the vehicle or on the road surface, that the vehicle bottomed out on the rain gutter. The damage sustained by Vehicle 1 is entirely consistent with a typical undercarriage airbag-deploying impact.

There is clear evidence within the vehicle which points to a full deployment (i.e., airbag contact with the driver's side visor).



Based upon the available evidence, it is the opinion of this investigator that the driver of Vehicle 1 entered the intersection attempting to turn south. The driver turned too soon and overrode/impacted the center median at an approximate speed of 33.9 km/h (21.1 MPH). The airbag deployed at this time. Vehicle 1 came to rest on the median. The driver was not treated at the scene, but did later see a private physician.

- Post Crash:** A bystander moved Vehicle 1 by driving it over the median. The deployed airbag was folded back into the module and it was taped down using gray duct tape. The vehicle has since been driven to a Mazda repair shop.
- Occupant Kinematics:** The driver of Vehicle 1 was sitting in a normal, upright position. Her right foot was on the accelerator; her left on the floorboard. Both hands were on the steering wheel, generally in the 5 and 7 o'clock positions. At impact, the driver went forward slightly. There were no visible contacts to the airbag. As the airbag deployed, it appears that the driver's left hand was struck by the airbag and right possibly by both the lower module cover and the airbag. The driver sustained contusions/swelling to both hands.
- Supplemental Restraint System:** Vehicle 1 was equipped with both a driver's side and a passenger side airbag. During the inspection of the vehicle, it was determined that the SRS light would remain lit for approximately five seconds after engaging ignition despite there having been a deployment. According to Mazda service personnel, this is a malfunction of the light.
- Scene Clearance:** Vehicle 1 was driven from its area of final rest by a passerby into a nearby parking lot. The vehicle was then driven from the scene by the driver. At some later point, the airbag was pushed back into the module and the module sealed with tape.
- Safety Standards:** There were no violations of Federal Motor Vehicle Safety Standards and Regulations found during the inspection of the case vehicle.

DRIVER AND OTHER OCCUPANTS:**VEHICLE 1****DRIVER**

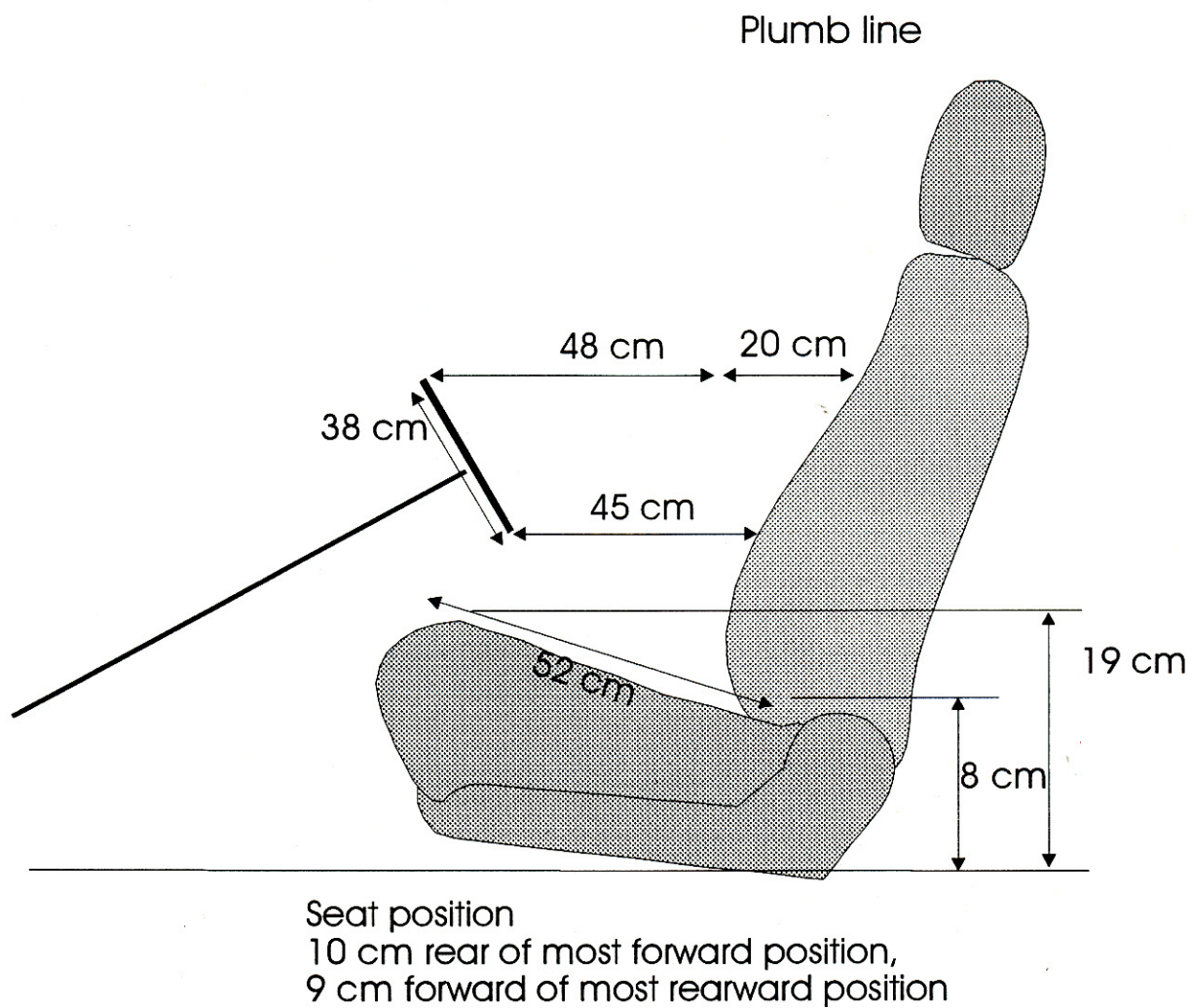
Age/Sex:	24/Female
Seated Position:	Left front
Seat Type:	Bucket
Height:	166 cm (61 in)
Weight:	52 kg (115 lb)
Occupation:	Clerical
Pre-existing Medical Condition:	None
Alcohol/Drug Involvement:	None
Driving Experience:	Unknown
Body Posture:	Upright, normal
Hand Position:	Both hands on SW @ 5 and 7 o'clock positions
Foot Position:	Right foot on accelerator, left on floorboard
Restraint Usage:	Supplemental restraint system (driver's side airbag); 3-point, manual lap and shoulder restraint
Additional Occupants:	None

INJURIES:**Vehicle 1**

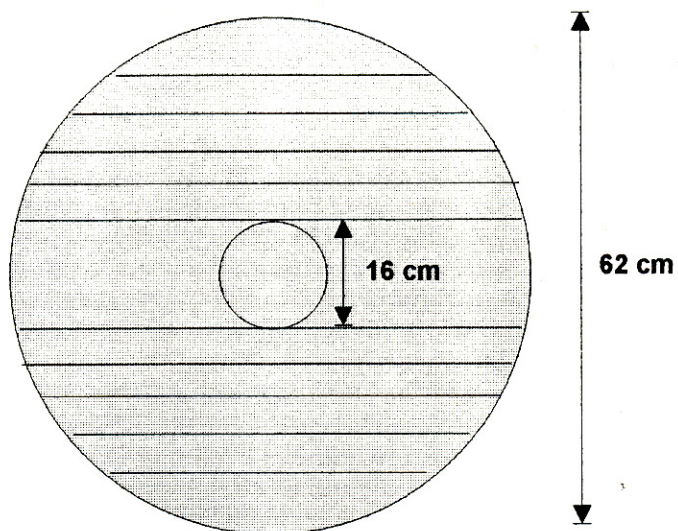
	<u>INJURY</u>	<u>OIC CODE</u>	<u>ICD-9</u>	<u>SOURCE</u>
DRIVER:	Contusion left hand	790402.1,2	923.20	Airbag
	Contusion left wrist	790402.1,2	923.21	Airbag
	Contusion right hand	790402.1,1	923.20	Airbag/cover
	Contusion right wrist	790402.1,1	923.21	Airbag/cover

Abbreviations Used In Scene And Photographic Documentation

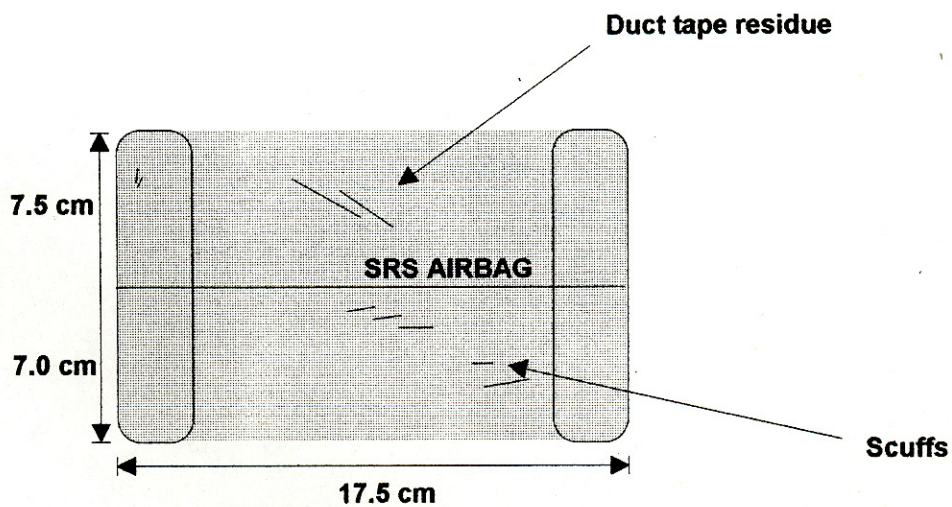
ft	Feet
in	Inches
AIS	Abbreviated Injury Scale
BLF	Begin Left Front
BLR	Begin Left Rear
BRF	Begin Right Front
BRR	Begin Right Rear
CBE	Cab Behind Engine
CCW	Counterclockwise
CDC	Collision Deformation Classification
CG	Center of Gravity
CM	Centimeter
COE	Cab Over Engine
CW	Clockwise
E, EB	East, Eastbound
ELF	End Left Front
ELR	End Left Rear
ERF	End Right Front
ERR	End Right Rear
FRP	Final Rest Position
I	Interstate Highway
IP	Intermediate Point
KG	Kilogram
km/h	Kilometers Per Hour
LF	Left Front
LR	Left Rear
M	Meter
N, NB	North, Northbound
NE	Northeast
NW	Northwest
PDOF	Principal Direction of Force
POI	Point of Impact
R	Radius of Curvature
RF	Right Front
RL	Reference Line
RP	Reference Point
RR	Right Rear
S, SB	South, Southbound
SE	Southeast
SW	Southwest
T	Time or Elapsed Time (in seconds)
V1	Vehicle Number 1
W, WB	West, Westbound

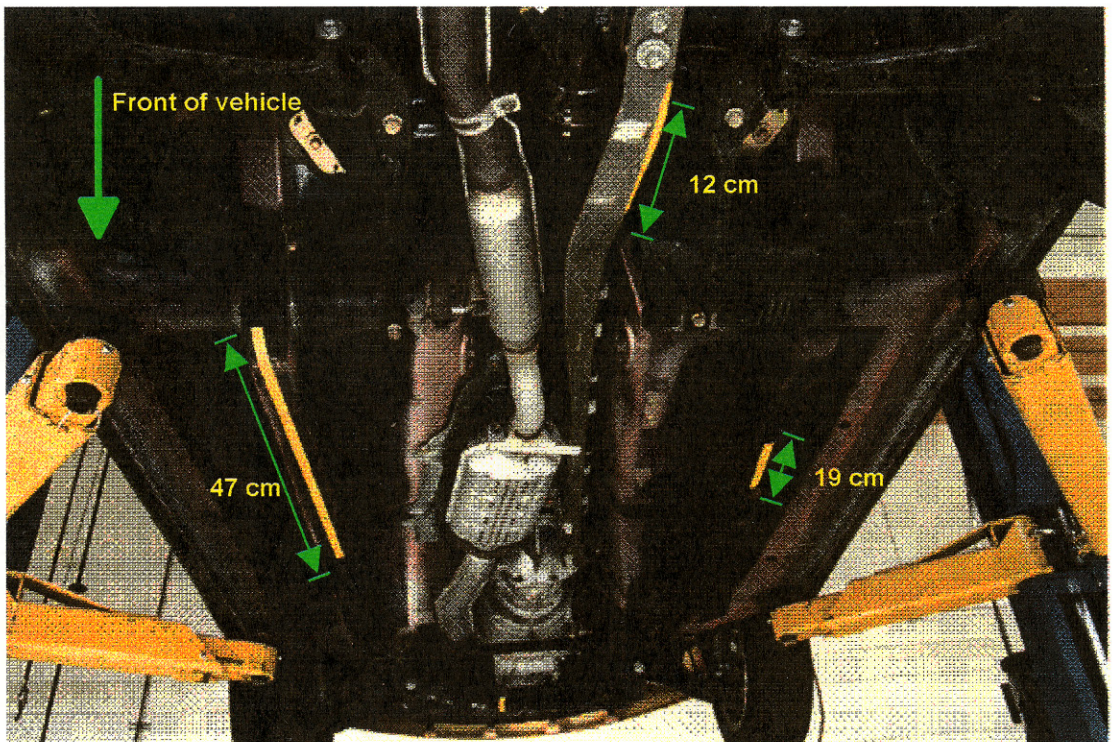
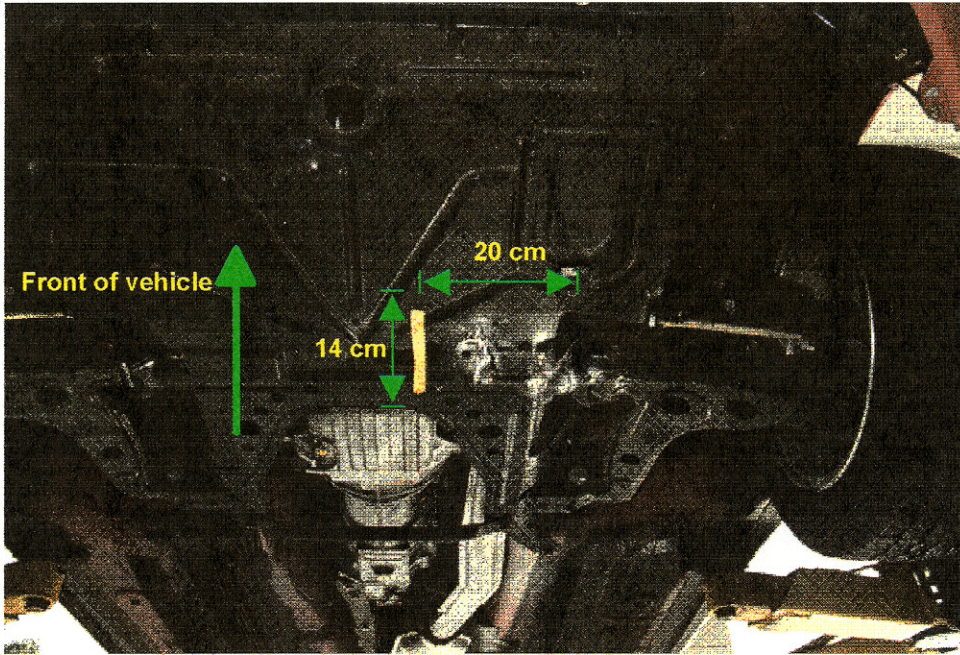


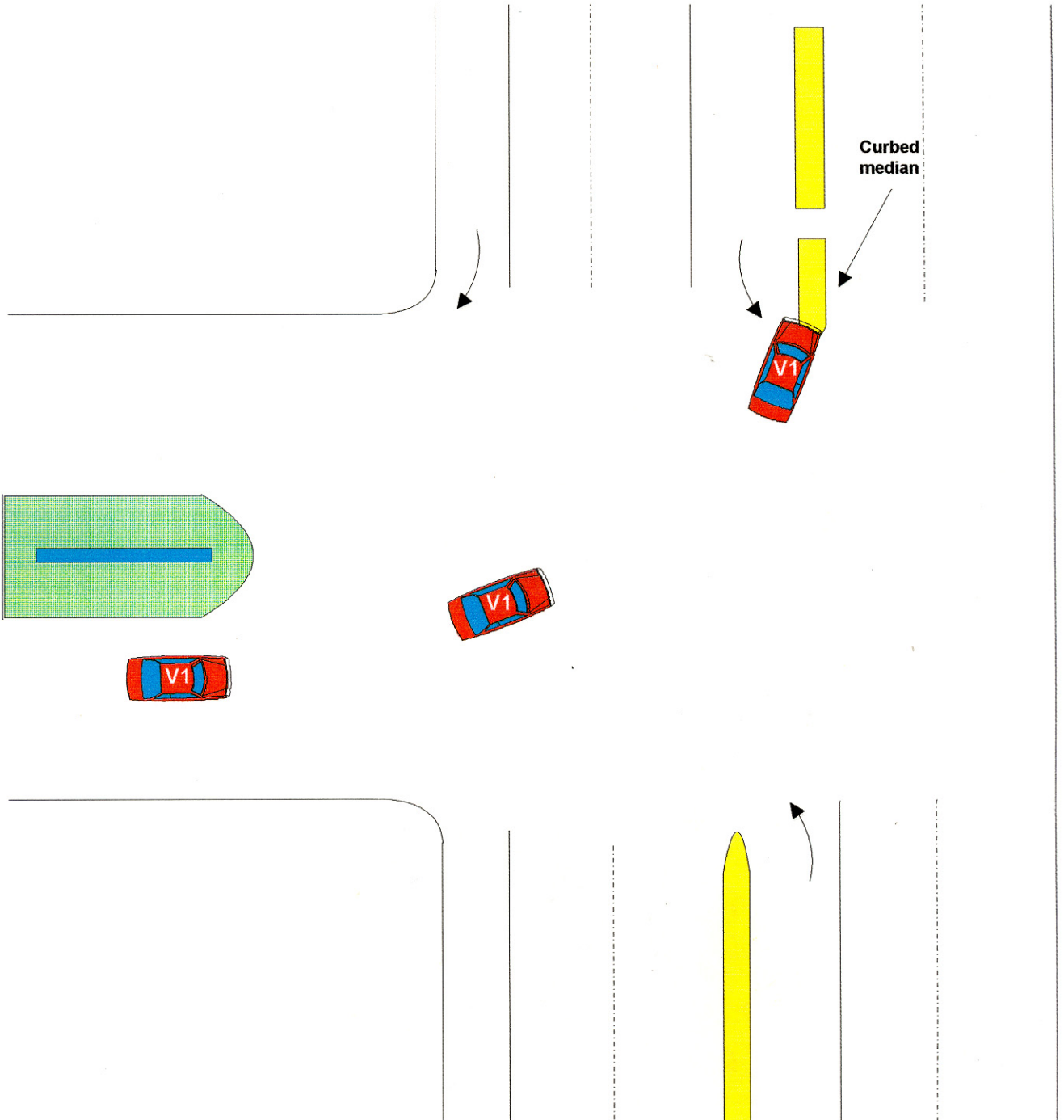
Airbag details: 5 folds (5 cm apart), 2 tethers, two vents.



Note: duct tape used to hold bag in module post-collision







Case Number: DSI-95-AB-24

Scale: 1" = 20'

North
↓

COLLISION MEASUREMENTS

Case Number DSI-95-AB-24

Reference Point: East road edge

Reference Line: North road edge

DATA POINT	LONGITUDINALS	LATERALS
Right turn lane	0	2.9 m (9.8 ft) W
NB travel lane 1	0	6.2 m (20.3 ft) W
NB travel lane 2	0	9.9 m (32.5 ft) W
Left/U-turn lane	0	14.1 m (46.4 ft) W
West edge of median	0	15.2 m (49.9 ft) W
SB travel lane 2	0	19.1 m (62.7 ft) W
SB travel lane 1	0	24.8 m (81.4 ft) W
Struck median offset	.8 m (2.5 ft) N	
Median length	4 m (13.2 ft) N	
Walkway cutout	.9 m (3.2 ft) N	
EB travel lane	7.3 m (23.9 ft) N	0
Median	12.1 m (39.6 ft) N	0
WB travel lane	19.3 m (63.2 ft) N	0
Driveway width	8.2 m (27 ft) N	

PHOTO INDEX

Case No. DSI-95-AB-24

PHOTO NO.	VEHICLE NO.	DIRECTION OF PICTURE	SUBJECT MATTER
1-2	1	South	Path from bank toward parking lot outlet.
3	1	East	Closeup view of gutter.
4-5	1	South	Continuation along path toward outlet.
6	1	South	Turn to travel west.
7-9	1	West	Path to point of impact.
10-11	1	West	Closeup of struck median.
12	1	North	Closeup of struck median.
13-15	1	East	Reverse views of travel path and struck median.
16-27	1	CCW	Exterior of vehicle.
28-44	1	NA	Undercarriage of vehicle.
44-75	1	NA	Interior of vehicle.. Note: #58-60 show driver's side airbag damage to LF visor.
76-78	NA	NA	Injured hands of Vehicle 1 driver.























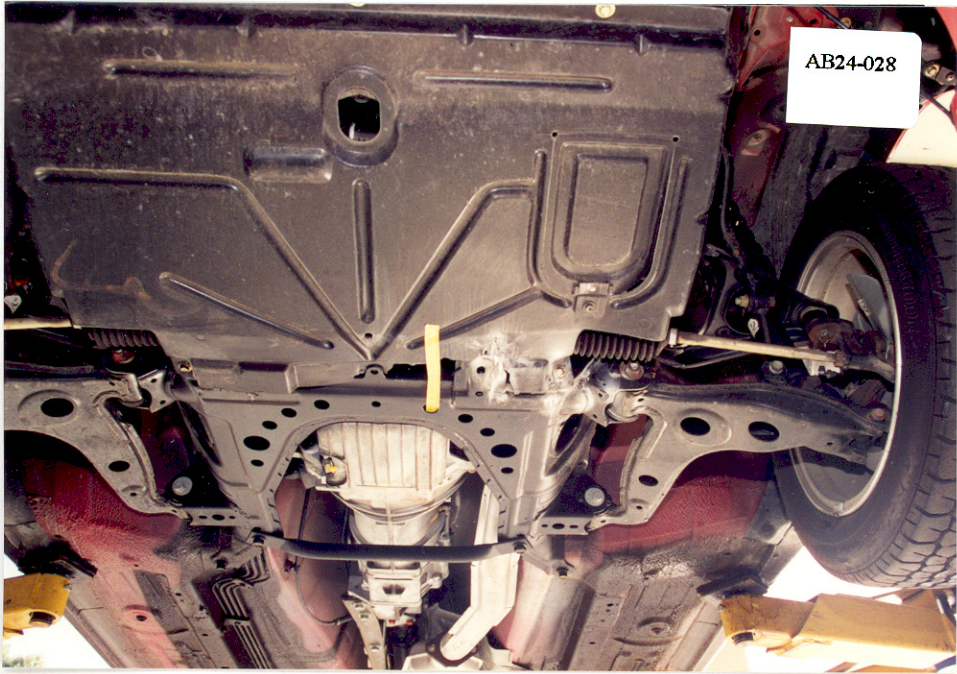


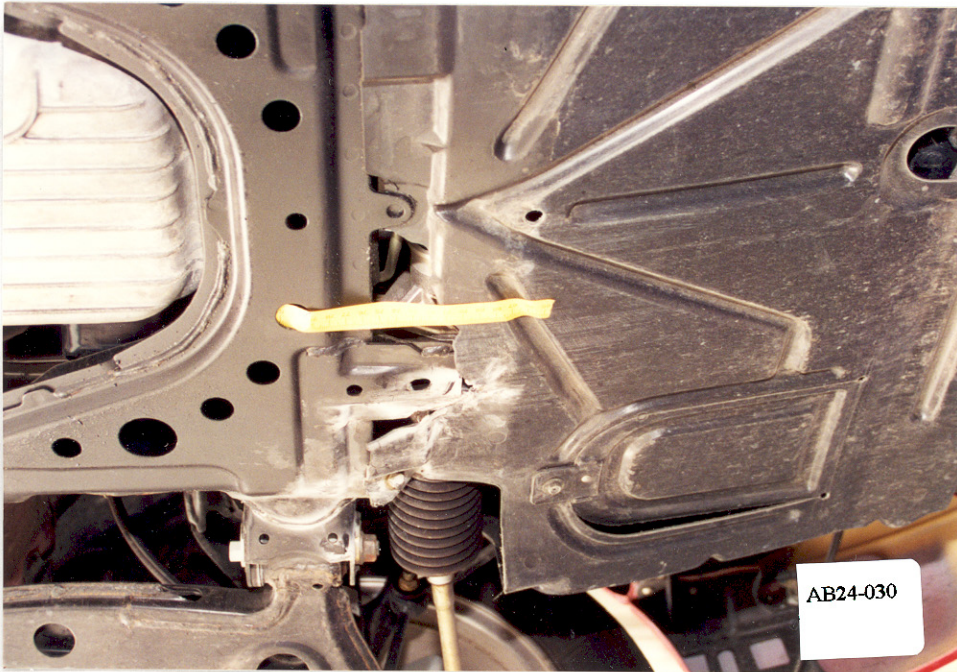
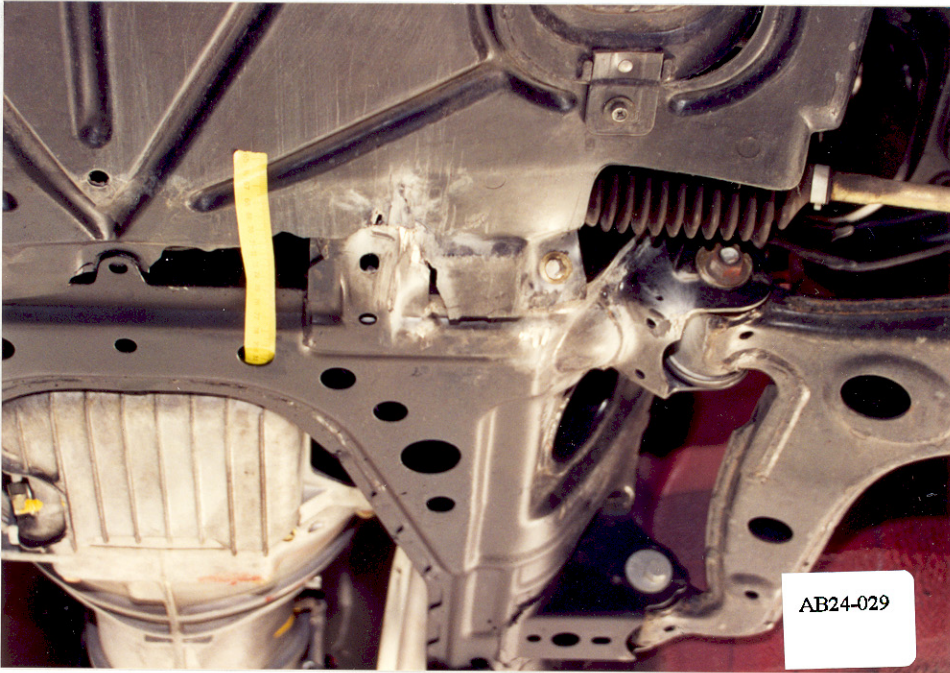


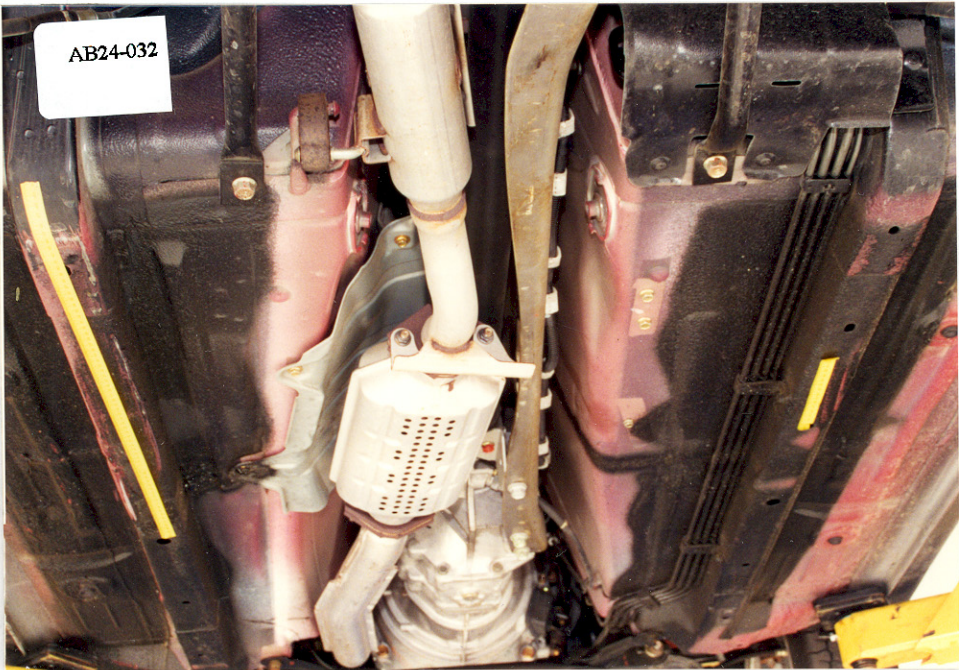
AB24-025

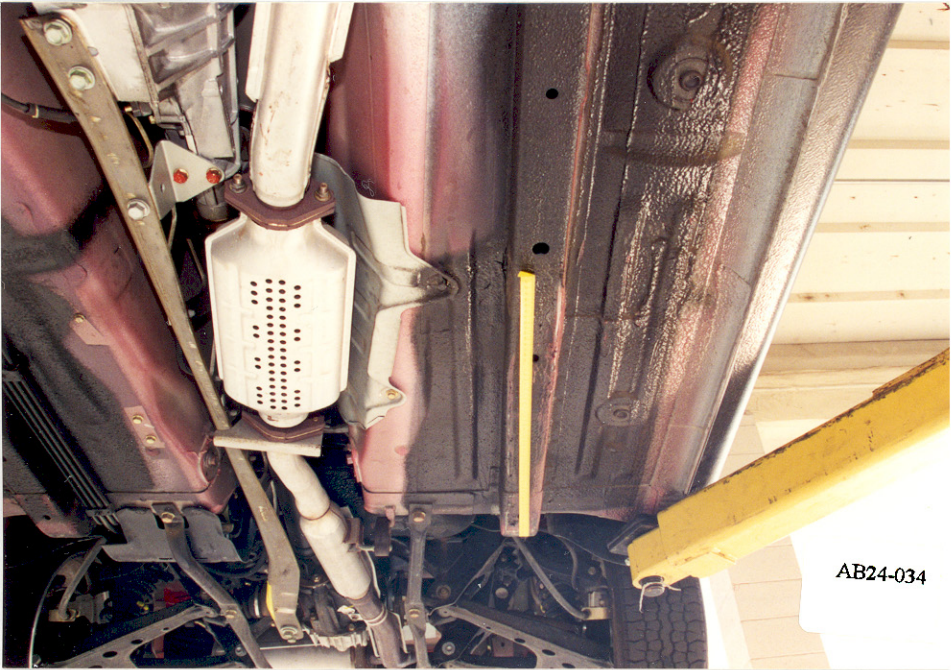
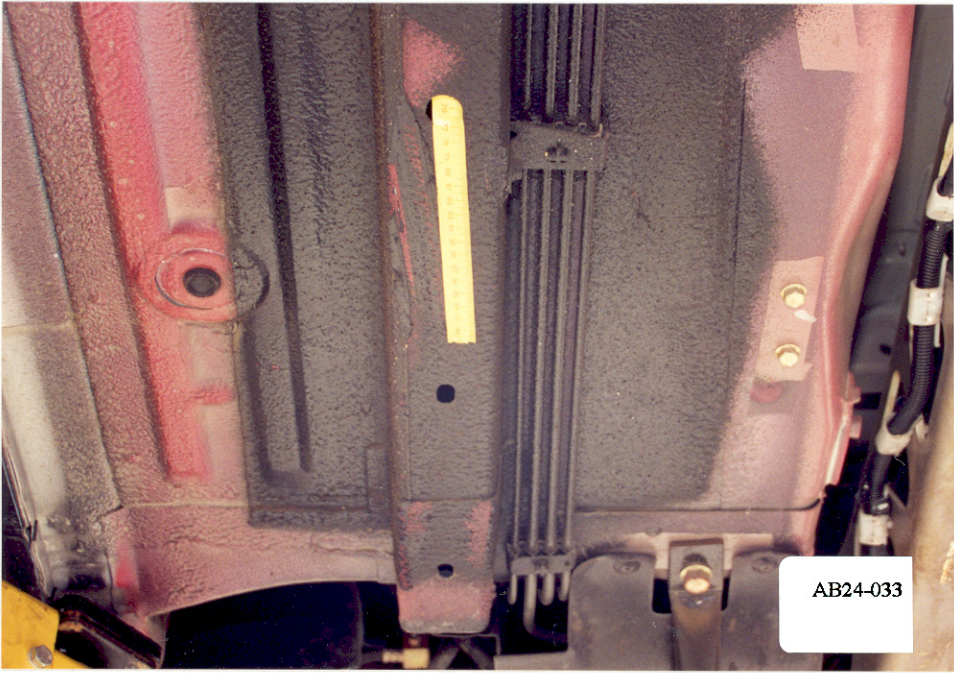


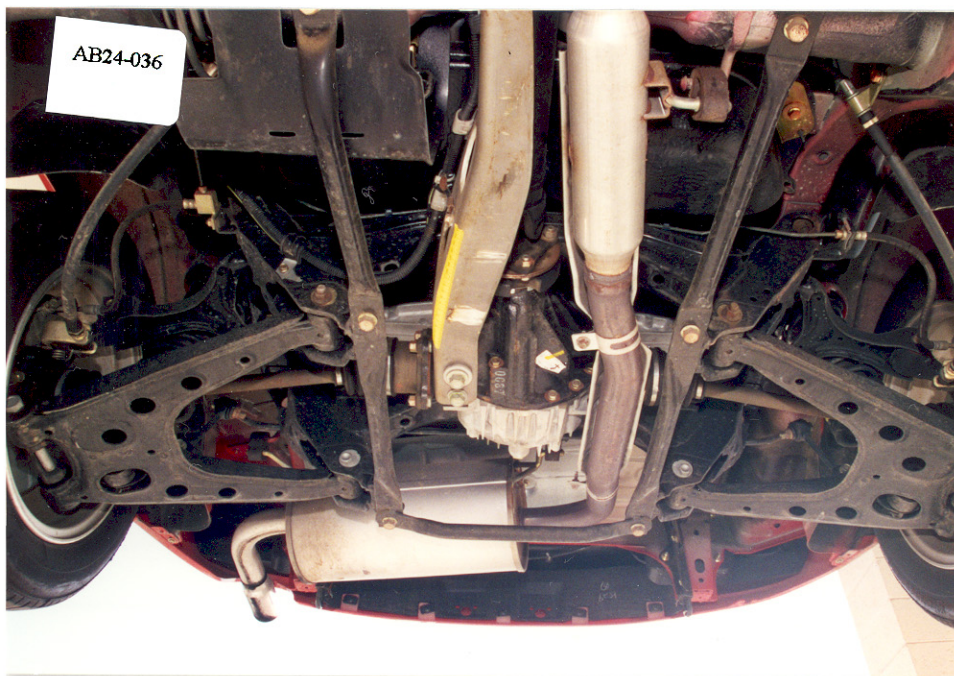
AB24-026

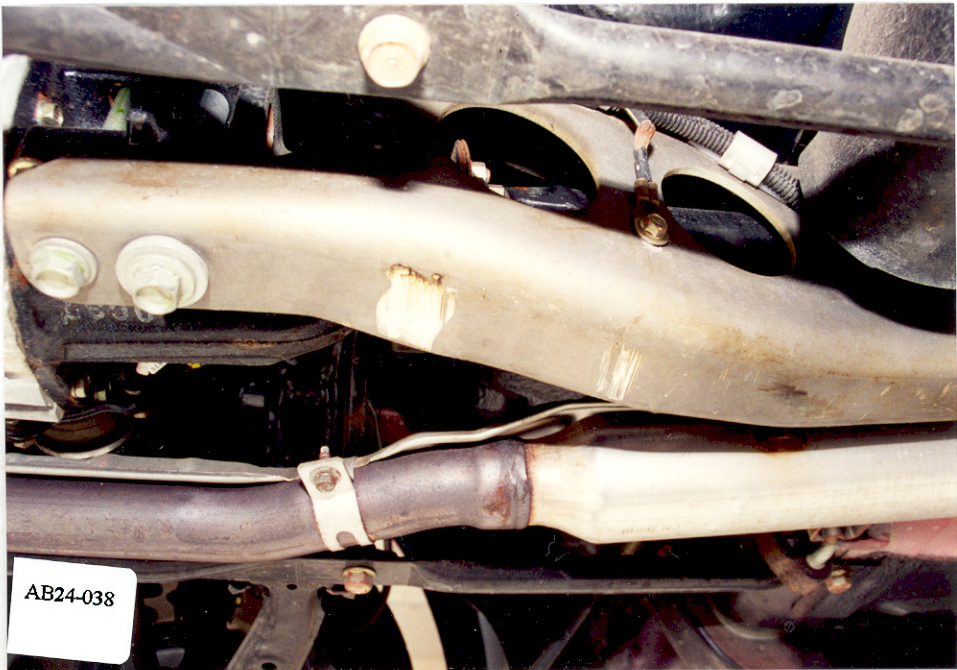
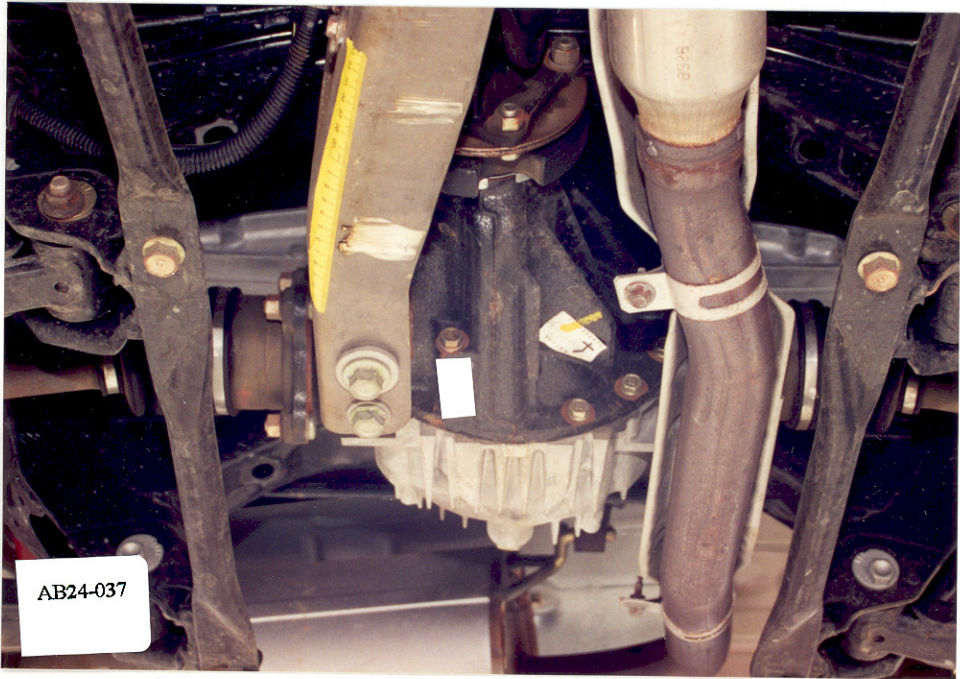


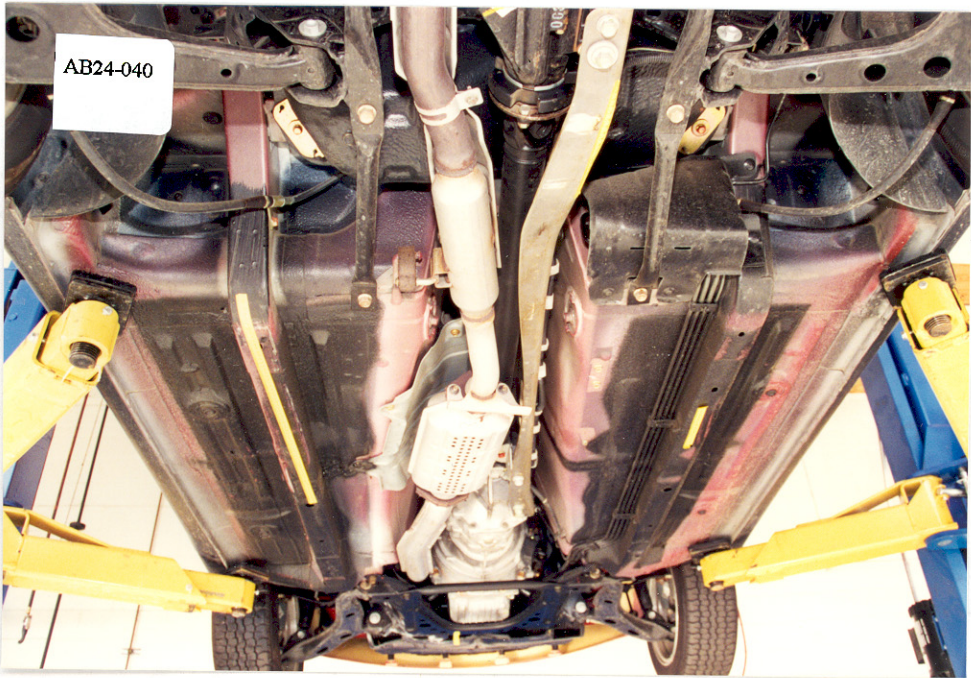




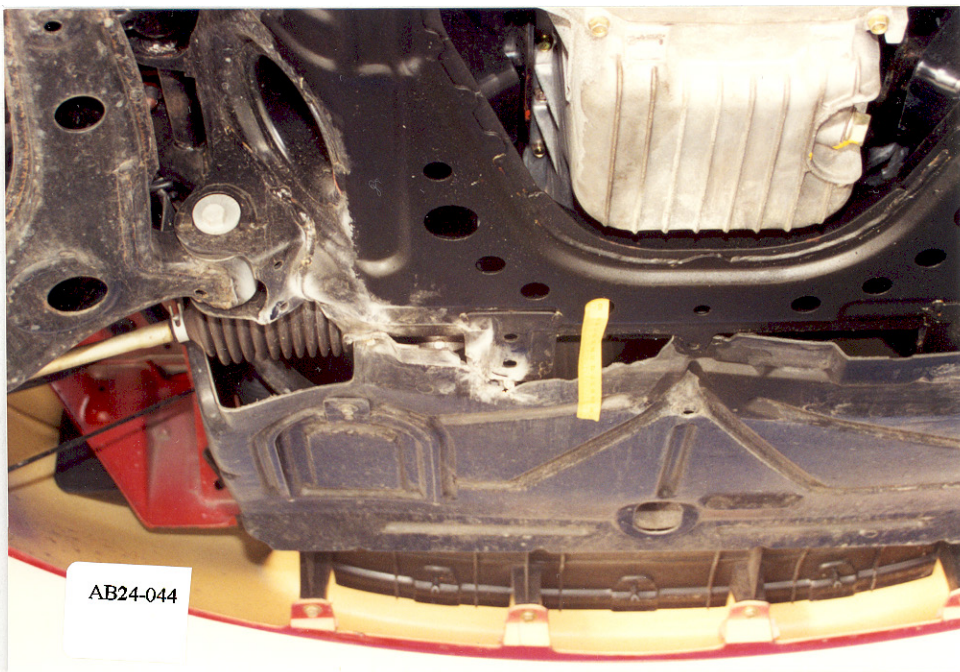
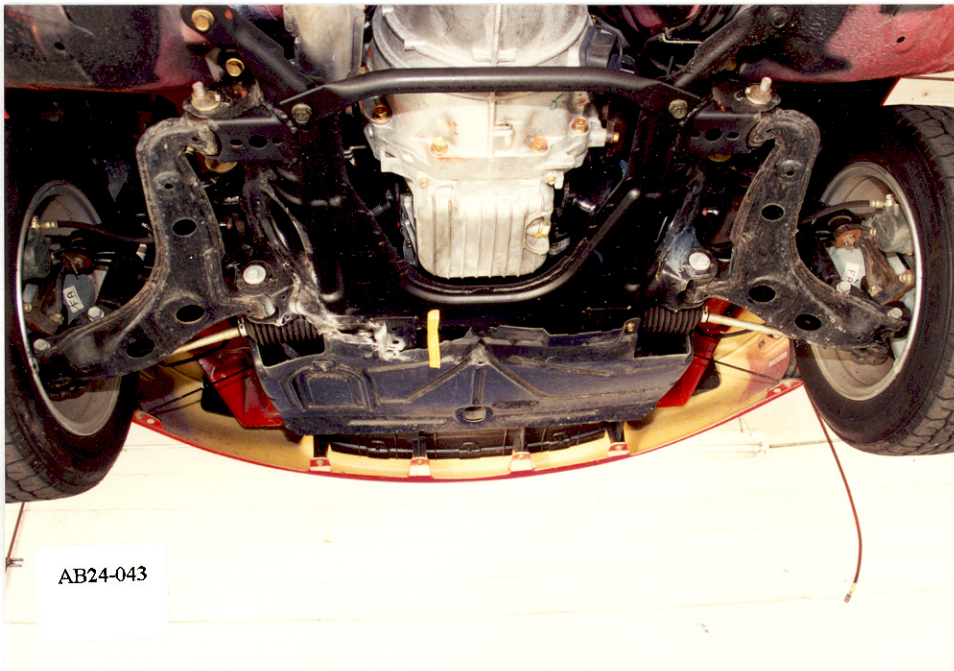










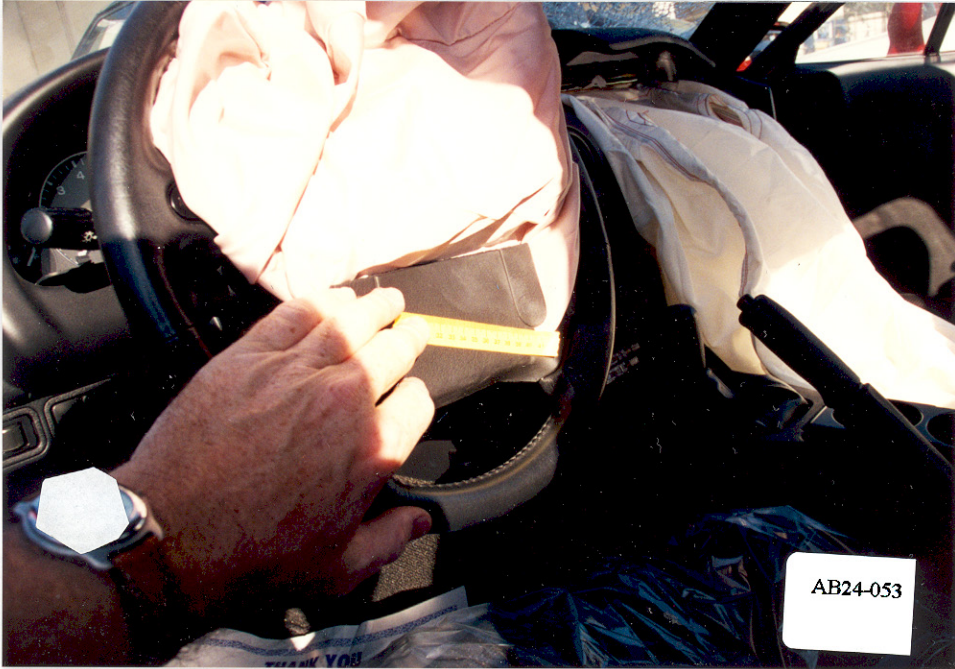






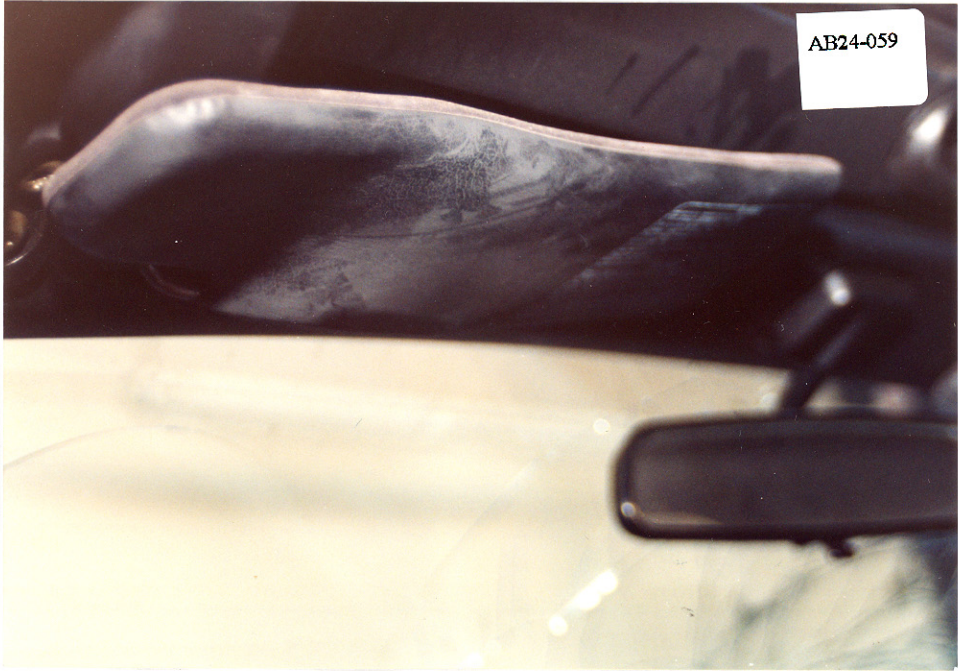








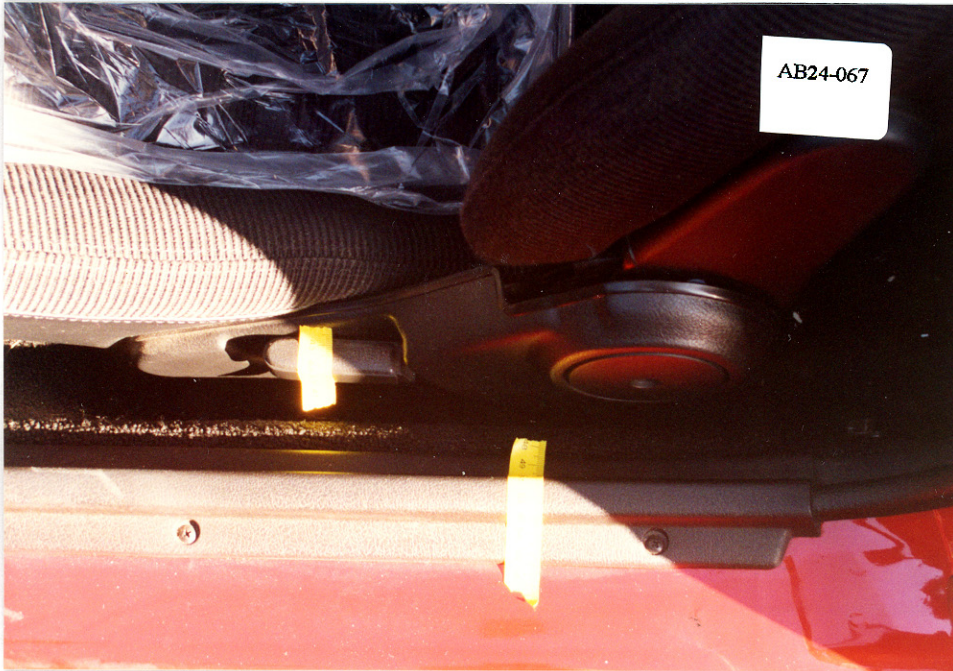










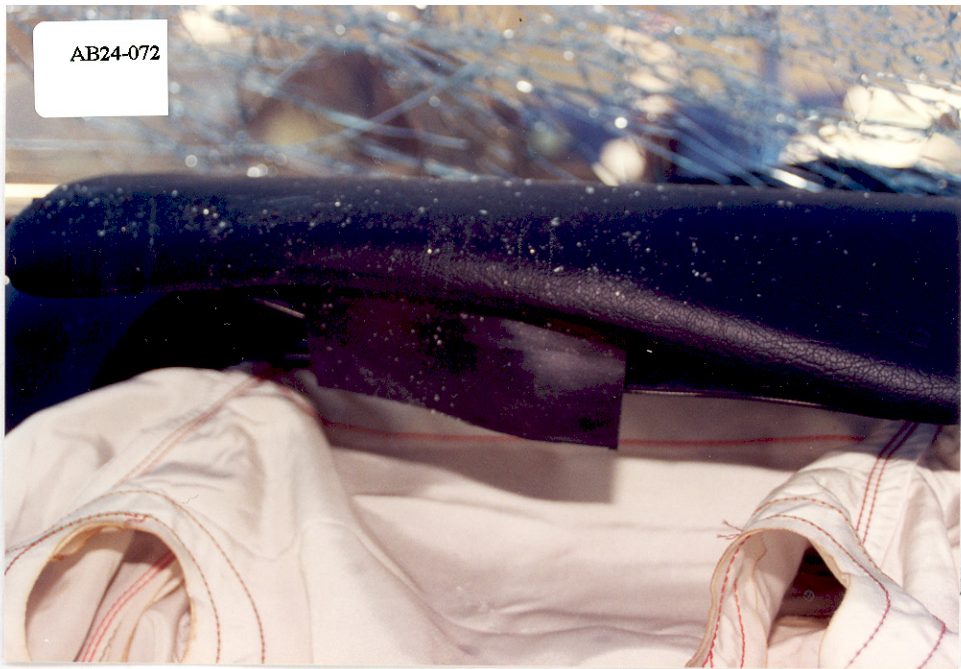


AB24-069



AB24-070











National Highway Traffic Safety
Administration

ACCIDENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

<div style="border-bottom: 1px solid black; padding-bottom: 5px;">1. Primary Sampling Unit Number _____</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">2. Case Number - Stratum <u>AB 24</u></div> <div style="background-color: black; color: white; text-align: center; padding: 5px; font-weight: bold;">IDENTIFICATION</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">3. Number of General Vehicle Forms Submitted <u>01</u></div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">4. Date of Accident (Month, Day, Year) _____ / <u>9</u> / <u>5</u></div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">5. Time of Accident <u>1545</u></div> <div style="padding: 5px;">Code reported military time of accident.</div> <div style="padding: 5px;">NOTE: Midnight = 2400 Unknown = 9999</div>				<div style="background-color: black; color: white; text-align: center; padding: 5px; font-weight: bold;">SPECIAL STUDIES - INDICATORS</div> <div style="padding: 5px;">Check (✓) each special study (SS15-SS18 below) that has been completed; code 1 for the checked special studies and 0 for the special studies not checked.</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">6. SS15 Administrative Use <u>0</u></div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">7. SS16 Pedestrian Crash Data Study <u>0</u> <small>(Data for this special study available in a separate file.)</small></div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">8. SS17 Impact Fires <u>0</u></div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">9. SS18 Unsafe Driver Actions <u>0</u></div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">10. SS19 _____</div> <div style="background-color: black; color: white; text-align: center; padding: 5px; font-weight: bold;">NUMBER OF EVENTS</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">11. Number of Recorded Events in This Accident <u>01</u></div> <div style="padding: 5px;">Code the number of events which occurred in this accident.</div>			
ACCIDENT EVENTS							
For each event that occurred in the accident, code the lowest numbered vehicle in the left columns and the other involved vehicle or object in the right columns.							
Accident Event Sequence Number	Vehicle Number	Class Of Vehicle	General Area of Damage	Vehicle Number or Object Contacted	Class Of Vehicle	General Area of Damage	
12. <u>01</u>	13. <u>01</u>	14. <u>01</u>	15. <u>U</u>	16. <u>68</u>	17. <u>04</u>	18. <u>0</u>	
19. <u>02</u>	20. _____	21. _____	22. _____	23. _____	24. _____	25. _____	
26. <u>03</u>	27. _____	28. _____	29. _____	30. _____	31. _____	32. _____	
33. <u>04</u>	34. _____	35. _____	36. _____	37. _____	38. _____	39. _____	
40. <u>05</u>	41. _____	42. _____	43. _____	44. _____	45. _____	46. _____	
IF GREATER THAN FIVE EVENTS, CONTINUE CODING ON THE ACCIDENT EVENT SUPPLEMENT							

CODES FOR CLASS OF VEHICLE

- | | |
|--|---|
| (00) Not a motor vehicle
(01) Subcompact/mini (wheelbase < 254 cm)
(02) Compact (wheelbase ≥ 254 but < 265 cm)
(03) Intermediate (wheelbase ≥ 265 but < 278 cm)
(04) Full size (wheelbase ≥ 278 but < 291 cm)
(05) Largest (wheelbase ≥ 291 cm)
(09) Unknown passenger car size
(14) Compact utility vehicle
(15) Large utility vehicle (≤ 4,500 kgs GVWR)
(16) Utility station wagon (≤ 4,500 kgs GVWR)
(19) Unknown utility type
(20) Minivan (≤ 4,500 kgs GVWR)
(21) Large van (≤ 4,500 kgs GVWR)
(24) Van Based school bus (≤ 4,500 kgs GVWR)
(28) Other van type (≤ 4,500 kgs GVWR)
(29) Unknown van type (≤ 4,500 kgs GVWR)
(30) Compact pickup truck (≤ 4,500 kgs GVWR) | (31) Large pickup truck (≤ 4,500 kgs GVWR)
(38) Other pickup truck (≤ 4,500 kgs GVWR)
(39) Unknown pickup truck type (≤ 4,500 kgs GVWR)
(45) Other light truck (≤ 4,500 kgs GVWR)
(48) Unknown light truck type (≤ 4,500 kgs GVWR)
(49) Unknown light vehicle type
(50) School bus (excludes van based)(> 4,500 kgs GVWR)
(58) Other bus (> 4,500 kgs GVWR)
(59) Unknown bus type
(60) Truck (> 4,500 kgs GVWR)
(67) Tractor without trailer
(68) Tractor-trailer(s)
(78) Unknown medium/heavy truck type
(79) Unknown light/medium/heavy truck type
(80) Motored cycle
(90) Other vehicle
(99) Unknown |
|--|---|

CODES FOR GENERAL AREA OF DAMAGE (GAD)

- | | | | |
|---|--|--|---|
| CDS APPLICABLE
AND OTHER
VEHICLES | (0) Not a motor vehicle
(N) Noncollision
(F) Front | (R) Right side
(L) Left side
(B) Back | (T) Top
(U) Undercarriage
(9) Unknown |
| TDC
APPLICABLE
VEHICLES | (0) Not a motor vehicle
(N) Noncollision
(F) Front
(R) Right side | (L) Left side
(B) Back of unit with cargo area
(rear of trailer or straight truck)
(D) Back (rear of tractor) | (C) Rear of cab
(V) Front of cargo area
(T) Top
(U) Undercarriage
(9) Unknown |

CODES FOR VEHICLE NUMBER OR OBJECT CONTACTED

- | | |
|---|--|
| (01-30) — Vehicle Number

Noncollision
(31) Overturn — rollover (excludes end-over-end)
(32) Rollover — end-over-end
(33) Fire or explosion
(34) Jackknife
(35) Other intraunit damage (specify):

(36) Noncollision injury
(38) Other noncollision (specify):

(39) Noncollision — details unknown

Collision With Fixed Object
(41) Tree (≤ 10 cm in diameter)
(42) Tree (> 10 cm in diameter)
(43) Shrubbery or bush
(44) Embankment
(45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
(50) Pole or post (≤ 10 cm in diameter)
(51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
(52) Pole or post (> 30 cm in diameter)
(53) Pole or post (diameter unknown)

(54) Concrete traffic barrier
(55) Impact attenuator
(56) Other traffic barrier (includes guardrail)
(specify): _____ | (57) Fence
(58) Wall
(59) Building
(60) Ditch or culvert
(61) Ground
(62) Fire hydrant
(63) Curb
(64) Bridge
(68) Other fixed object (specify):
<u>MEDIAN</u>
(69) Unknown fixed object

Collision with Nonfixed Object
(70) Passenger car, light truck, van, or other vehicle not
in-transport
(71) Medium/heavy truck or bus not in-transport
(72) Pedestrian
(73) Cyclist or cycle
(74) Other nonmotorist or conveyance

(75) Vehicle occupant
(76) Animal
(77) Train
(78) Trailer, disconnected in transport
(79) Object fell from vehicle in-transport
(88) Other nonfixed object (specify):

(89) Unknown nonfixed object
(98) Other event (specify):

(99) Unknown event or object |
|---|--|



GENERAL VEHICLE FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

12. Speed Limit

(000) No statutory limit

Code posted or statutory speed limit
in kmph

(999) Unknown

____ mph X 1.6093 = ____ kmph

13. Police Reported Alcohol Presence For Driver

(0) No alcohol present

(1) Yes alcohol present

(7) Not reported

(8) No driver present

(9) Unknown

14. Alcohol Test Result For Driver

Code actual value (decimal implied
before first digit—0.xx)

(95) Test refused

(96) None given

(97) AC test performed, results unknown

(98) No driver present

(99) Unknown

Source: _____

15. Police Reported Other Drug Presence For
Driver

(0) No other drug(s) present

(1) Yes other drug(s) present

(7) Not reported

(8) No driver present

(9) Unknown

16. Other Drug Specimen Test Result For Driver

(0) No specimen test given

(1) Drug(s) not found in specimen

(2) Drug(s) found in specimen, (specify): _____

(3) Specimen test given, results unknown or not
obtained

(8) No driver present

(9) Unknown if specimen test given

17. Driver's Zip Code

(00001) Driver not a resident of U.S. or territories

Code actual 5-digit zip code

(99998) No driver present

(99999) Unknown

18. Driver's Race/Ethnic Origin

(1) White (non-Hispanic)

(2) Black (non-Hispanic)

(3) White (Hispanic)

(4) Black (Hispanic)

(5) American Indian, Eskimo or Aleut

(6) Asian or Pacific Islander

(7) Other (specify): _____

(8) No driver present

(9) Unknown

VEHICLE IDENTIFICATION

4. Vehicle Model Year

Code the last two digits of the model year

(99) Unknown

5. Vehicle Make (specify):

MAZDA

Applicable codes are found in your
NASS Data Collection, Coding and
Editing Manual.

(99) Unknown

6. Vehicle Model (specify):

MIATA

Applicable codes are found in your
NASS Data Collection, Coding and
Editing Manual.

(999) Unknown

7. Body Type

Note: Applicable codes may be found on
the back of this page.

8. Vehicle Identification Number

J M I N A 3 5 3 5 S 0 X X X X X X
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Left justify; Slash zeros and letter Z (0 and Z)

No VIN—Code all zeros

Unknown—Code all nines

9. Vehicle Special Use (This Trip)

(0) No special use

(1) Taxi

(2) Vehicle used as school bus

(3) Vehicle used as other bus

(4) Military

(5) Police

(6) Ambulance

(7) Fire truck or car

(8) Other (specify): _____

(9) Unknown

OFFICIAL RECORDS

10. Police Reported Vehicle Disposition

(0) Not towed due to vehicle damage

(1) Towed due to vehicle damage

(9) Unknown

11. Police Reported Travel Speed

Code to the nearest kmph (NOTE: 000 means
less than 0.5 kmph)

(160) 159.5 kmph and above

(999) Unknown

____ mph X 1.6093 = ____ kmph

CODES FOR BODY TYPE

CDS APPLICABLE VEHICLES

Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (07) Hatchback, number of doors unknown
- (08) Other automobile type (specify): _____
- (09) Unknown automobile type

Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine - more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

Utility Vehicles ($\leq 4,500$ kgs GVWR)

- (14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Passport, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Hummer, Landcruiser, Rover, Scout, Yukon)
- (16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

Van Based Light Trucks ($\leq 4,500$ kgs GVWR)

- (20) Minivan (Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Vista, Aerostar, Windstar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Expo Wagon, Vanagon/Camper.)
- (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
- (22) Step van or walk-in van ($\leq 4,500$ kgs GVWR)
- (23) Van based motorhome ($\leq 4,500$ kgs GVWR)
- (24) Van based school bus ($\leq 4,500$ kgs GVWR)
- (25) Van based other bus ($\leq 4,500$ kgs GVWR)
- (28) Other van type (Hi-Cube Van, Kary) (specify): _____
- (29) Unknown van type

Light Conventional Trucks (Pickup style cab, $\leq 4,500$ kgs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500, T100)

- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

Other Light Trucks ($\leq 4,500$ kgs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49) Unknown light vehicle type (automobile, utility, van, or light truck)

OTHER VEHICLES

Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): _____
- (59) Unknown bus type

Medium/Heavy Trucks ($> 4,500$ kgs GVWR)

- (60) Step van ($> 4,500$ kgs GVWR)
- (61) Single unit straight truck ($4,500$ kgs $<$ GVWR $\leq 8,850$ kgs)
- (62) Single unit straight truck ($8,850$ kgs $<$ GVWR $\leq 12,000$ kgs)
- (63) Single unit straight truck ($> 12,000$ kgs GVWR)
- (64) Single unit straight truck, GVWR unknown
- (65) Medium/heavy truck based motorhome
- (67) Truck-tractor with no cargo trailer
- (68) Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer)
- (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
- (81) Moped (motorized bicycle)
- (82) Three-wheel motorcycle or moped
- (88) Other motored cycle (minibike, motorscooter) (specify): _____
- (89) Unknown motored cycle type

Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

PRECRASH ENVIRONMENTAL DATA**19. Relation To Interchange Or Junction** 2

- (0) Non-interchange area and non-junction
(1) Interchange area related

Non-Interchange junctions

- (2) Intersection related
(3) Driveway, alley access related
(4) Other junction (specify) _____

- (5) Unknown type of junction

- (9) Unknown

20. Trafficway Flow 1

- (0) Not physically divided (two way traffic)
(1) Divided trafficway-median strip without positive barrier
(2) Divided trafficway-median strip with positive barrier
(3) One way traffic
(9) Unknown

21. Number Of Travel Lanes 2

- (1) One
(2) Two
(3) Three
(4) Four
(5) Five
(6) Six
(7) Seven or more
(9) Unknown

22. Roadway Alignment 1

- (1) Straight
(2) Curve right
(3) Curve left
(9) Unknown

23. Roadway Profile 4

- (1) Level
(2) Uphill grade (>2%)
(3) Hill crest
(4) Downhill grade (>2%)
(5) Sag
(9) Unknown

24. Roadway Surface Type 2

- (1) Concrete
(2) Bituminous (asphalt)
(3) Brick or block
(4) Slag, gravel, or stone
(5) Dirt
(8) Other (specify): _____
(9) Unknown

25. Roadway Surface Condition 1

- (1) Dry
(2) Wet
(3) Snow or slush
(4) Ice
(5) Sand, dirt, or oil
(8) Other (specify): _____
(9) Unknown

26. Light Conditions 1

- (1) Daylight
(2) Dark
(3) Dark, but lighted
(4) Dawn
(5) Dusk
(9) Unknown

27. Atmospheric Conditions φ

- (0) No adverse atmospheric-related driving conditions
(1) Rain
(2) Sleet/hail
(3) Snow
(4) Fog
(5) Rain and fog
(6) Sleet and fog
(7) Other (e.g., smog, smoke, blowing sand or dust, etc.) (specify): _____
(9) Unknown

28. Traffic Control Device 1

- (0) No traffic control(s)
(1) Traffic control signal (not RR crossing)

Regulatory

- (2) Stop sign
(3) Yield sign
(4) School zone sign
(5) Other regulatory sign (specify): _____

- (6) Warning sign (not RR crossing)

- (7) Unknown sign

- (8) Miscellaneous/other controls including RR controls (specify): _____

- (9) Unknown

29. Traffic Control Device Functioning 2

- (0) No traffic control device
(1) Traffic control device not functioning (specify) _____
(2) Traffic control device functioning properly
(9) Unknown

PRECRASH DRIVER RELATED DATA

30. Driver's Distraction/Inattention To Driving 9 9
 (Prior To Recognition Of Critical Event)
 (00) No driver present
 (01) Attentive or not distracted
 (02) Looked but did not see
Distractions
 (03) By other occupant(s), (specify): _____
 (04) By moving object in vehicle (specify): _____
 (05) While talking or listening to cellular phone (specify location and type of phone): _____
 (06) While dialing cellular phone (specify location and type of phone): _____
 (07) While adjusting climate controls
 (08) While adjusting radio, cassette, CD (specify): _____
 (09) While using other device/object in vehicle (specify): _____
 (10) Sleepy or fell asleep
 (11) Distracted by outside person, object, or event (specify): _____
 (12) Eating or drinking
 (13) Smoking related
 (97) Distracted/inattentive, details unknown
 (98) Other, distraction (specify): _____
 (99) Unknown
31. Pre-Event Movement (Prior to Recognition of Critical Event) 1 1
 (00) No driver present
 (01) Going straight
 (02) Decelerating in traffic lane
 (03) Accelerating in traffic lane
 (04) Starting in traffic lane
 (05) Stopped in traffic lane
 (06) Passing or overtaking another vehicle
 (07) Disabled or parked in travel lane
 (08) Leaving a parking position
 (09) Entering a parking position
 (10) Turning right
 (11) Turning left
 (12) Making a U-turn
 (13) Backing up (other than for parking position)
 (14) Negotiating a curve
 (15) Changing lanes
 (16) Merging
 (17) Successful avoidance maneuver to a previous critical event
 (97) Other (specify): _____
 (99) Unknown
32. Critical Precrash Event 1 5
This Vehicle Loss of Control Due To:
 (01) Blow out or flat tire
 (02) Stalled engine
 (03) Disabling vehicle failure (e.g., wheel fell off) (specify): _____
 (04) Non-disabling vehicle problem (e.g., hood flew up) (specify): _____
 (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): _____
 (06) Traveling too fast for conditions
 (08) Other cause of control loss (specify): _____
 (09) Unknown cause of control loss

This Vehicle Traveling

- (10) Over the lane line on left side of travel lane
 (11) Over the lane line on right side of travel lane
 (12) Off the edge of the road on the left side
 (13) Off the edge of the road on the right side
 (14) End departure
 (15) Turning left at intersection
 (16) Turning right at intersection
 (17) Crossing over (passing through) intersection
 (18) This vehicle decelerating
 (19) Unknown travel direction

Other Motor Vehicle In Lane

- (50) Other vehicle stopped
 (51) Traveling in same direction with lower steady speed
 (52) Traveling in same direction while decelerating
 (53) Traveling in same direction with higher speed
 (54) Traveling in opposite direction
 (55) In crossover
 (56) Backing
 (59) Unknown travel direction of other motor vehicle in lane

Other Motor Vehicle Encroaching Into Lane

- (60) From adjacent lane (same direction)—over left lane line
 (61) From adjacent lane (same direction)—over right lane line
 (62) From opposite direction—over left lane line
 (63) From opposite direction—over right lane line
 (64) From parking lane
 (65) From crossing street, turning into same direction
 (66) From crossing street, across path
 (67) From crossing street, turning into opposite direction
 (68) From crossing street, intended path not known
 (70) From driveway, turning into same direction
 (71) From driveway, across path
 (72) From driveway, turning into opposite direction
 (73) From driveway, intended path not known
 (74) From entrance to limited access highway
 (78) Encroachment by other vehicle—details unknown

Pedestrian, Pedalcyclist, or Other Nonmotorist

- (80) Pedestrian in roadway
 (81) Pedestrian approaching roadway
 (82) Pedestrian—unknown location
 (83) Pedalcyclist or other nonmotorist in roadway (specify): _____
 (84) Pedalcyclist or other nonmotorist approaching roadway, (specify): _____
 (85) Pedalcyclist or other nonmotorist—unknown location (specify): _____

Object or Animal

- (87) Animal in roadway
 (88) Animal approaching roadway
 (89) Animal—unknown location
 (90) Object in roadway
 (91) Object approaching roadway
 (92) Object—unknown location
 (98) Other critical precrash event (specify): _____
 (99) Unknown

33. Attempted Avoidance Maneuver

4 1

- (00) No driver present
- (01) No avoidance maneuver
- (02) Braking (no lockup)
- (03) Braking (lockup)
- (04) Braking (lockup unknown)
- (05) Releasing brakes
- (06) Steering left
- (07) Steering right
- (08) Braking and steering left
- (09) Braking and steering right
- (10) Accelerating
- (11) Accelerating and steering left
- (12) Accelerating and steering right
- (98) Other action (specify):

(99) Unknown

34. Pre-Impact Stability

1

- (0) No driver present
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify):

(9) Precrash stability unknown

35. Pre-Impact Location

4

- (0) No driver present
- (1) Stayed in original travel lane
- (2) Stayed on roadway but left original travel lane
- (3) Stayed on roadway, not known if left original travel lane
- (4) Departed roadway
- (5) Remained off roadway
- (6) Returned to roadway
- (7) Entered roadway
- (9) Unknown

36. Accident Type

4 6

(Note: Applicable codes on back of this page)

(00) No impact

Code the number of the diagram that best describes the accident circumstance

(98) Other accident type (specify):

(99) Unknown

STOP HERE IF GV07 DOES NOT EQUAL 01 - 49

OCCUPANT RELATED

37. Driver Presence in Vehicle 1
 (0) Driver not present
 (1) Driver present
 (9) Unknown
38. Number of Occupants This Vehicle 4 1
 (00-96) Code actual number of occupants for this vehicle
 (97) 97 or more
 (99) Unknown
39. Number of Occupant Forms Submitted 4 1

AIR BAG RELATED

40. Is this an AOPS Vehicle? 1
 (0) No (includes unknown)
 (1) Yes - researcher determined
 (2) VIN determined air bag system
 (3) VIN determined automatic (passive) belts
 (4) VIN determined air bag and automatic (passive) belts
41. Air Bag(s) Deployment, First Seat Frontal 6
 (0) Not equipped or not available
 (1) No air bags deployed
Single Air Bag Vehicle
 (2) Driver air bag deployed
 (3) Driver air bag, unknown if deployed
Multiple Air Bag Vehicle
 (4) Driver side only deployed
 (5) Passenger side only deployed
 (6) Driver and passenger side deployed
 (7) Driver and passenger side unknown if deployed
 (8) Air bag(s) deployed, details unknown
 (9) Unknown
42. Air Bag(s) Deployment, Other Than First Seat Frontal 4
 (0) Not equipped with an "other" air bag
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

Specify type of "other" air bag present: _____

VEHICLE WEIGHT ITEMS

43. Vehicle Curb Weight 1 4 4 0
 _____ Code weight to nearest 10 kilograms.
 (045) Less than 450 kilograms
 (610) 6,100 kilograms or more
 (999) Unknown
 _____ lbs X .4536 = 1 4 4 0 kgs
 Source: _____

44. Vehicle Cargo Weight 4 4 4 0
 _____ Code weight to nearest 10 kilograms.
 (000) Less than 5 kilograms
 (450) 4,500 kilograms or more
 (999) Unknown
 _____ lbs X .4536 = _____ kgs
 Source: _____

ROLLOVER DATA

45. Rollover 4 4
 (00) No rollover (no overturning)
Rollover (primarily about the longitudinal axis)
 (01-16) Code the number of quarter turns
 (17) Rollover, 17 or more quarter turns (specify):
 (98) Rollover--end-over-end (i.e., primarily about the lateral axis)
 (99) Rollover (overturn), details unknown
46. Rollover Initiation Type 4 4
 (00) No rollover
 (01) Trip-over
 (02) Flip-over
 (03) Turn-over
 (04) Climb-over
 (05) Fall-over
 (06) Bounce-over
 (07) Collision with another vehicle
 (08) Other rollover initiation type specify):
 (98) Rollover--end-over-end
 (99) Unknown rollover initiation type
47. Location of Rollover Initiation 4
 (0) No rollover
 (1) On roadway
 (2) On shoulder--paved
 (3) On shoulder--unpaved
 (4) On roadside or divided trafficway median
 (8) Rollover--end-over-end
 (9) Unknown
48. Rollover Initiation Object Contacted 4 4
 (Note: Applicable codes on back of page)
49. Location on Vehicle Where Initial Principal Tripping Force Is Applied 4
 (0) No rollover
 (1) Wheels/tires
 (2) Side plane
 (3) End plane
 (4) Undercarriage
 (5) Other location on vehicle (specify):
 (6) Non-contact rollover forces (specify):
 (8) Rollover--end-over-end
 (9) Unknown
50. Direction of Initial Roll 4
 (0) No rollover
 (1) Roll right - primarily about the longitudinal axis
 (2) Roll left - primarily about the longitudinal axis
 (8) Rollover--end-over-end
 (9) Unknown roll direction

CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

- (00) No rollover
- (01-30) — Vehicle Number

Noncollision

- (31) Turn-over — fall-over
- (32) No rollover impact initiation (end-over-end)
- (34) Jackknife

Collision With Fixed Object

- (41) Tree (≤ 10 cm in diameter)
- (42) Tree (> 10 cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment

- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post

- (50) Pole or post (≤ 10 cm in diameter)
- (51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
- (52) Pole or post (> 30 cm in diameter)
- (53) Pole or post (diameter unknown)

- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail)
(specify): _____

- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): _____

- (69) Unknown fixed object _____

Collision with Nonfixed Object

- (70) Passenger car, light truck, van, or other vehicle not in-transport
- (71) Medium/heavy truck or bus not in-transport
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (79) Object fell from vehicle in-transport
- (88) Other nonfixed object (specify): _____

- (89) Unknown nonfixed object _____

- (98) Other event (specify): _____

- (99) Unknown event or object _____

OVERRIDE/UNDERRIDE (THIS VEHICLE)

51. Front Override/Underride (this Vehicle) φ
52. Rear Override/Underride (this Vehicle) φ
- (0) No override/underride, or not an end-to-end impact between two CDS applicable vehicles, and no medium/heavy truck or bus underride
- Override (see specific CDC)*
[Between 2 CDS applicable vehicles (Bodytype, GV07=1-49)]
- (1) 1st CDC
- (2) 2nd CDC
- (3) Other not automated CDC (specify):

- Underride (see specific CDC)*
[Between 2 CDS applicable vehicles (Bodytype, GV07=1-49)]
- (4) 1st CDC
- (5) 2nd CDC
- (6) Other not automated CDC (specify):

- (7) Medium/heavy truck or bus override (of any configuration)
- (9) Unknown

HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values: (000)-(359) Code actual value
(997) Noncollision
(998) Impact with object
(999) Unknown

53. Heading Angle For This Vehicle 9 9 8
54. Heading Angle For Other Vehicle 9 9 8

RECONSTRUCTION DATA

55. Towed Trailing Unit φ
- (0) No towed unit
- (1) Yes—towed trailing unit
- (9) Unknown
56. Documentation of Trajectory Data for This Vehicle φ
- (0) No
- (1) Yes
57. Post Collision Condition of Tree or Pole (For Highest Delta V) φ
- (0) Not collision (for highest delta V) with tree or pole
- (1) Not damaged
- (2) Cracked/sheared
- (3) Tilted <45 degrees
- (4) Tilted ≥45 degrees
- (5) Uprooted tree
- (6) Separated pole from base
- (7) Pole replaced
- (8) Other (specify):

- (9) Unknown

ACCIDENT RECONSTRUCTION PROGRAMS HIGHEST DELTA V

58. Basis for Total (Resultant) Delta V (highest) φ φ
- (00) No vehicle inspection
- Delta V Calculated*
- (01) Reconstruction program—damage only routine
- (02) Reconstruction program—damage and trajectory routine
- (03) Missing vehicle algorithm
- Delta V Not Calculated*
- (04) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.

All vehicles within scope (CDC applicable) of reconstruction program but one of the collision conditions is beyond the scope of the reconstruction program or other acceptable reconstruction technique, regardless of adequacy of damage data.

- (05) Rollover
- (06) Other non-horizontal forces
- (07) Sideswipe type damage
- (08) Severe override
- (09) Yielding object
- (10) Overlapping damage
- (11) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

(98) Other, (specify):

COMPUTER GENERATED CRASH SEVERITY

59. Total Delta V

9 9 9

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)

(160) 159.5 kmph and above

(999) Unknown

60. Longitudinal Component of
Delta V+ _____ Highest
- 9 9 9

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: __000 means greater than
-0.5 kmph and less than +0.5 kmph)

(±160) ±159.5 kmph and above

(____999) Unknown

61. Lateral Component of Delta V

+ _____ Highest
- 9 9 9

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: __000 means greater than -0.5 kmph and
less than +0.5 kmph)

(±160) ±159.5 kmph and above

(____999) Unknown

62. Energy Absorption

9 9 9 9 0 0

_____ Nearest 100 joules (highest)

_____ Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)

(9997) 999,650 joules or more

(9999) Unknown

63. Impact Speed

Highest

9 9 9

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means

less than 0.5 kmph)

(160) 159.5 kmph and above

(998) Trajectory algorithm not run

(999) Unknown

DELTA V CONFIDENCE LEVEL

64. Confidence In Reconstruction Program
Results (For Highest Delta V)0

(0) No reconstruction

(1) Collision fits model — results appear
reasonable

(2) Collision fits model — results appear high

(3) Collision fits model — results appear low

(4) Borderline reconstruction — results appear
reasonable

OTHER SPEED ESTIMATE

65. Barrier Equivalent
Speed

Highest

9 9 9

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means

less than 0.5 kmph)

(160) 159.5 kmph and above

(999) Unknown

IS MISSING VEHICLE ALGORITHM APPLICABLE FOR THIS VEHICLE? [] YES [✓] NO

IF YES: IS A COMPLETED PROGRAM SUMMARY INCLUDED? [] YES [] NO

ESTIMATED DELTA V	VEHICLE INSPECTION
<p>66. Estimated Highest Delta V (Researcher Determined) <u>2</u></p> <p>(0) Reconstruction Delta V coded</p> <p><i>Estimated Delta V</i></p> <p>(1) Less than 10 kmph</p> <p>(2) ≥ 10 kmph but < 25 kmph</p> <p>(3) ≥ 25 kmph but < 40 kmph</p> <p>(4) ≥ 40 kmph but < 55 kmph</p> <p>(5) ≥ 55 kmph</p> <p><i>Other estimates of damage severity</i></p> <p>(6) Minor</p> <p>(7) Moderate</p> <p>(8) Severe</p> <p>(9) Unknown</p>	<p>67. Type of Vehicle Inspection <u>3</u></p> <p>(0) No inspection</p> <p>(1) Vehicle fully repaired-no damage evident</p> <p>(2) Partial inspection (specify): _____</p> <p>(3) Complete inspection</p>

*** IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV67=0), ***

DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS

*** IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE ***

THE EXTERIOR VEHICLE, INTERIOR VEHICLE,
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.

EXTERIOR VEHICLE FORM

**NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM**

1. Primary Sampling Unit Number	_____	3. Vehicle Number	<u>41</u>
2. Case Number - Stratum	<u>AB 24</u>		

VEHICLE IDENTIFICATION

VIN J M I N A 3 5 3 5 5 4 X X X X X X Model Year 95
Vehicle Make (specify): MAZDA Vehicle Model (specify): MIATA

LOCATOR

Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L	Location of Max Crush

CRUSH PROFILE IN CENTIMETERS

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

UNDERCARRIAGE IMPACT

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

Use as many lines/columns as necessary to describe each damage profile.

[illegible]

VEHICLE DAMAGE SKETCH

TIRE—WHEEL DAMAGE

- a. Rotation physically restricted b. Tire deflated

RF 2
LF 2
RR 2
LR 2

RF 2
LF 2
RR 2
LR 2

(1) Yes (2) No (8) NA (9) Unk.

TYPE OF TRANSMISSION

☐ Manual ☐ Automatic

END SHIFT \geq 10 CM

☐ Yes ☐ No

ORIGINAL SPECIFICATIONS

Wheelbase 227 cm
Overall Length 395 cm
Maximum Width 168 cm
Curb Weight 1040 kg
Average Track 142 cm
Front Overhang 81 cm
Rear Overhang 88 cm
Undeformed End Width _____ cm
Engine Size: cyl./displ. _____ L

WHEEL STEER ANGLES
(For locked front wheels or displaced rear axles only)

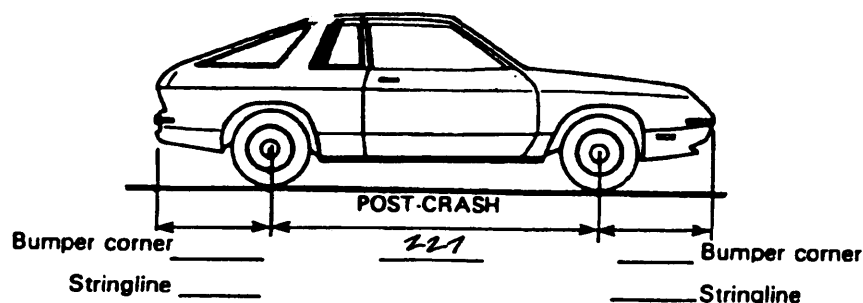
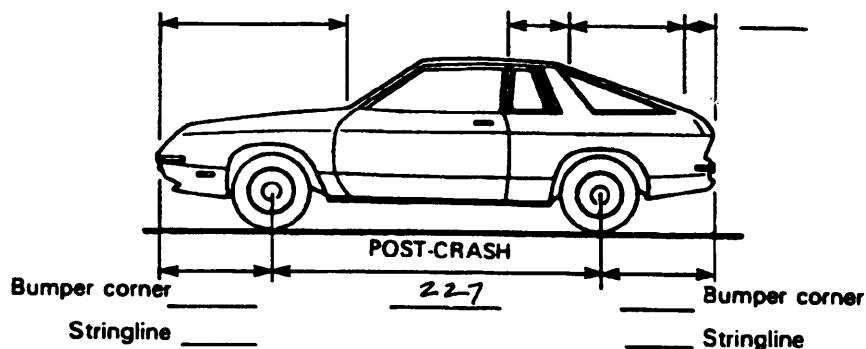
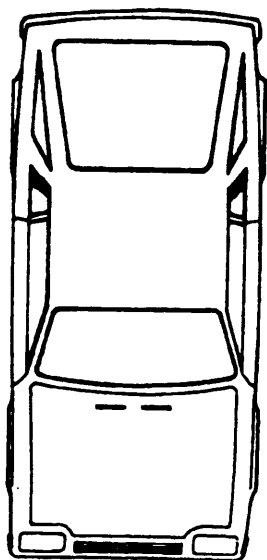
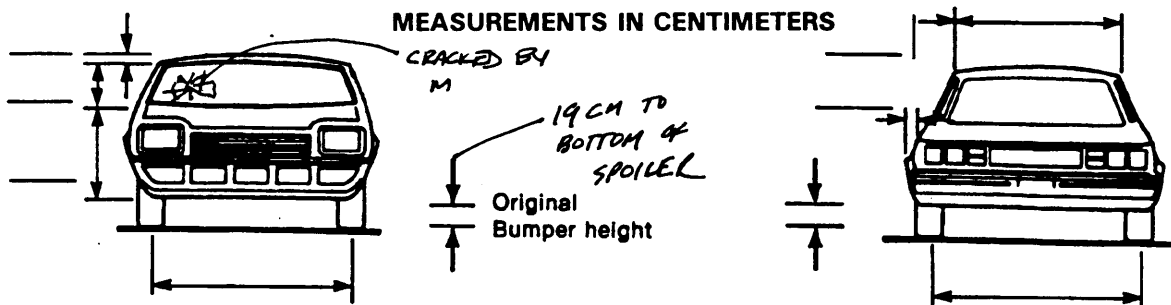
RF \pm _____ °
LF \pm _____ °
RR \pm _____ °
LR \pm _____ °

Within \pm 5 degrees

DRIVE WHEELS

☐ FWD ☐ RWD ☐ 4WD

Approximate Cargo Weight _____ kg



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

COLLISION DEFORMATION CLASSIFICATION**HIGHEST DELTA "V"**

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>φ 1</u>	5. <u>6 8</u>	6. <u>1 2</u>	7. <u>u</u>	8. <u>D</u>	9. <u>D</u>	10. <u>W</u>	11. <u>φ 2</u>

Second Highest Delta "V"

12. _____	13. _____	14. _____	15. _____	16. _____	17. _____	18. _____	19. _____
-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

HIGHEST DELTA "V"

20. <u>L</u>	21. <u>C₁</u>	<u>C₂</u>	<u>C₃</u>	<u>C₄</u>	<u>C₅</u>	<u>C₆</u>	22. <u>±D</u>
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

Second Highest Delta "V"

23. <u>L</u>	24. <u>C₁</u>	<u>C₂</u>	<u>C₃</u>	<u>C₄</u>	<u>C₅</u>	<u>C₆</u>	25. <u>±D</u>
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

26. Undeformed End Width
(Coded when highest severity impact is an end plane impact.) 9 9 8
_____ Code to the nearest centimeter
(250) 250 centimeters or more
(998) No highest severity end plane impact
(999) Unknown

27. Direct Damage Width
(For highest severity impact) 9 9 9
_____ Code to the nearest centimeter
(250) 250 centimeters or more
(999) Unknown

28. Original Wheelbase
_____ Code to the nearest centimeter 2 2 7
(650) 650 centimeters or more
(999) Unknown
_____ inches X 2.54 = _____ centimeters

29. Original Average Track Width
_____ Code to the nearest centimeter 1 4 2
(185) 185 centimeters or more
(999) Unknown
_____ inches X 2.54 = _____ centimeters

FUEL SYSTEM

30. Are CDCs Documented but Not Coded on The Automated File? 4

- (0) No
(1) Yes

31. Researcher's Assessment of Vehicle Disposition 4

(0) Not towed due to vehicle damage
(1) Towed due to vehicle damage
(9) Unknown

32. Is This A Multi-Stage Manufactured Vehicle And/Or A Certified Altered Vehicle? 4

(0) No post manufacturer modifications
(1) Yes - post manufacturer modifications (specify): _____

(Include photograph of CERTIFICATION PLACARD in case report)

- (9) Unknown if vehicle is modified

FIRE OCCURRENCE

33. Fire Occurrence 4

(0) No fire

Yes, fire occurred

- (1) Minor
(2) Major
(9) Unknown

34. Origin of Fire 4

(0) No fire

- (1) Vehicle exterior (front, side, back, top)
(2) Exhaust system
(3) Fuel tank (and other fuel retention system parts)
(4) Engine compartment
(5) Cargo/trunk compartment
(6) Instrument panel
(7) Passenger compartment area
(8) Other location (specify): _____

- (9) Unknown

35. Location of Fuel Tank-1 Filler Cap 2

36. Location of Fuel Tank-2 Filler Cap 4

- (0) No fuel tank
(1) On back plane
(2) Aft of center of the rear wheels (rear axle) on left side plane
(3) Aft of center of the rear wheels (rear axle) on right side plane
(4) Forward of center of the rear wheels (rear axle) on left side plane
(5) Forward of center of the rear wheels (rear axle) on right side plane
(6) Over the center of the rear wheels (rear axle) on left side plane
(7) Over the center of the rear wheels (rear axle) on right side plane
(8) Other (specify): _____
(9) Unknown

37. Type of Fuel Tank-1 1

38. Type of Fuel Tank-2 4

- (0) No fuel tank (electrical vehicle)
(1) Metallic
(2) Non-metallic
(9) Unknown

39. Location of Fuel Tank-1 1

40. Location of Fuel Tank-2 4

- (0) No fuel tank
(1) Aft of center of the rear wheels (rear axle) centered
(2) Aft of center of the rear wheels (rear axle) left side
(3) Aft of center of the rear wheels (rear axle) right side
(4) Forward of center of the rear wheels (rear axle) centered
(5) Forward of center of the rear wheels (rear axle) left side
(6) Forward of center of the rear wheels (rear axle) right side
(7) Over center of the rear wheels (rear axle)
(8) Other (specify): _____
(9) Unknown

41. Damage to Fuel Tank-1 1

42. Damage to Fuel Tank-2 4

- (0) No fuel tank
(1) No damage to fuel tank
(2) Deformed, no seam failure
(3) Deformed, with a seam failure
(4) Punctured
(5) Lacerated (ripped)
(6) Abraded (scraped)
(7) Filler neck separation from the fuel tank
(8) Other damage (specify): _____
(9) Unknown

<p>43. Leakage Location of Fuel System-1 <u>1</u></p> <p>44. Leakage Location of Fuel System-2 <u>φ</u></p> <p>(0) No fuel tank (1) No fuel leakage</p> <p><i>Primary Area Of Leakage</i></p> <p>(2) Tank (3) Filler neck (4) Cap (5) Lines/pump/filter (6) Vent/emission recovery (8) Other (specify): _____ (9) Unknown</p> <p>45. Fuel Type-1 <u>φ 1</u></p> <p>46. Fuel Type-2 <u>φ φ</u></p> <p><i>Single Fuel Type</i></p> <p>(00) No fuel tank (01) Gasoline (02) Diesel (03) CNG (Compressed Natural Gas) (04) LPG (Liquid Petroleum Gas) also known as Propane (05) LNG (Liquid Natural Gas) (06) Methanol (M100 or M85) (07) Ethanol (E100 or E85) (08) Other (Hydrogen or others) (specify): _____</p> <p>_____ _____</p> <p><i>Electric Powered or Electric/Solar Powered Vehicles</i></p> <p>(10) Lead Acid Battery (11) Nickel-Iron Battery (12) Nickel-Cadmium Battery (13) Sodium Metal Chloride Battery (14) Sodium Sulfur Battery (18) Other (Specify): _____</p> <p>(98) Other Hybrid (specify): _____</p> <p>_____ _____</p> <p>(99) Unknown fuel type</p>	<p>47. Is This Vehicle Equipped With More Than Two Fuel Tanks? <u>φ</u></p> <p>(0) No (one or two tanks only)</p> <p><i>Yes - More Than Two Tanks</i></p> <p>(1) Yes – <u>no damage</u> to any tank or filler cap and <u>no fuel system leakage</u> (2) Yes – <u>no damage</u> to any tank or filler cap but <u>there is fuel system leakage</u> (specify leakage location): _____ _____ (3) Yes – <u>damage</u> to an additional tank or filler cap and <u>there is fuel system leakage</u> (specify the following): Type of tank _____ Tank location _____ Filler cap location _____ Tank damage _____ Location of leakage _____ Type of fuel _____ (9) Unknown if more than two tanks</p>
<p>COMMENTS</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	
<p>*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED ***</p> <p>(GV10=0)</p> <p>DO NOT COMPLETE THE INTERIOR VEHICLE FORM.</p>	



INTERIOR VEHICLE FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

INTEGRITY

4. Passenger Compartment Integrity

(00) No integrity loss

Yes, Integrity Was Lost Through

(01) Windshield

(02) Door (side)

(03) Door/hatch (back door)

(04) Roof

(05) Roof glass

(06) Side window

(07) Rear window (backlight)

(08) Roof and roof glass

(09) Windshield and door (side)

(10) Windshield and roof

(11) Side and rear window (side window and backlight)

(12) Windshield and side window

(13) Door and side window

(98) Other combination of above (specify):

(99) Unknown

Door, Tailgate or Hatch Opening

5. LF 1 6. RF 1 7. LR 0 8. RR 0 9. TG/H 0

(0) No door/gate/hatch

(1) Door/gate/hatch remained closed and operational

(2) Door/gate/hatch came open during collision

(3) Door/gate/hatch jammed shut

(8) Other (specify):

(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then code 0

10. LF 0 11. RF 0 12. LR 0 13. RR 0 14. TG/H 0

(0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision

(1) Door operational (no damage)

(2) Latch/striker failure due to damage

(3) Hinge failure due to damage

(4) Door structure failure due to damage

(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage

(6) Latch/striker and hinge failure due to damage

(8) Other failure (specify):

(9) Unknown

GLAZING

Type of Window/Windshield Glazing

15. WS 1 16. LF 2 17. RF 2 18. LR 0 19. RR 020. BL 8 21. Roof 0 22. Other 2

(0) No glazing

(1) AS-1 — Laminated

(2) AS-2 — Tempered

(3) AS-3 — Tempered-tinted (original)

(4) AS-2 — Tempered-with after market tint

(5) AS-3 — Tempered-tinted (with additional after market tint)

(6) AS-14 — Glass/Plastic

(7) Glazing removed prior to accident

(8) Other (specify):

(9) Unknown

Window Precrash Glazing Status

23. WS 1 24. LF 2 25. RF 2 26. LR 0 27. RR 028. BL 1 29. Roof 0 30. Other 1

(0) No glazing

(1) Fixed

(2) Closed

(3) Partially opened

(4) Fully opened

(7) Glazing removed prior to accident

(9) Unknown

Glazing Damage from Impact Forces

31. WS 2 32. LF 1 33. RF 1 34. LR 0 35. RR 036. BL 1 37. Roof 0 38. Other 1

(0) No glazing

(1) No glazing damage from impact forces

(2) Glazing in place and cracked from impact forces

(3) Glazing in place and holed from impact forces

(4) Glazing out-of-place (cracked or not) and not holed from impact forces

(5) Glazing out-of-place and holed from impact forces

(6) Glazing disintegrated from impact forces

(7) Glazing removed prior to accident

(9) Unknown if damaged

Glazing Damage from Occupant Contact

39. WS 1 40. LF 1 41. RF 1 42. LR 0 43. RR 044. BL 1 45. Roof 0 46. Other 1

(0) No glazing

(1) No occupant contact to glazing

(2) Glazing contacted by occupant but no glazing damage

(3) Glazing in place and cracked by occupant contact

(4) Glazing in place and holed by occupant contact

(5) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact

(6) Glazing out-of-place by occupant contact and holed by occupant contact

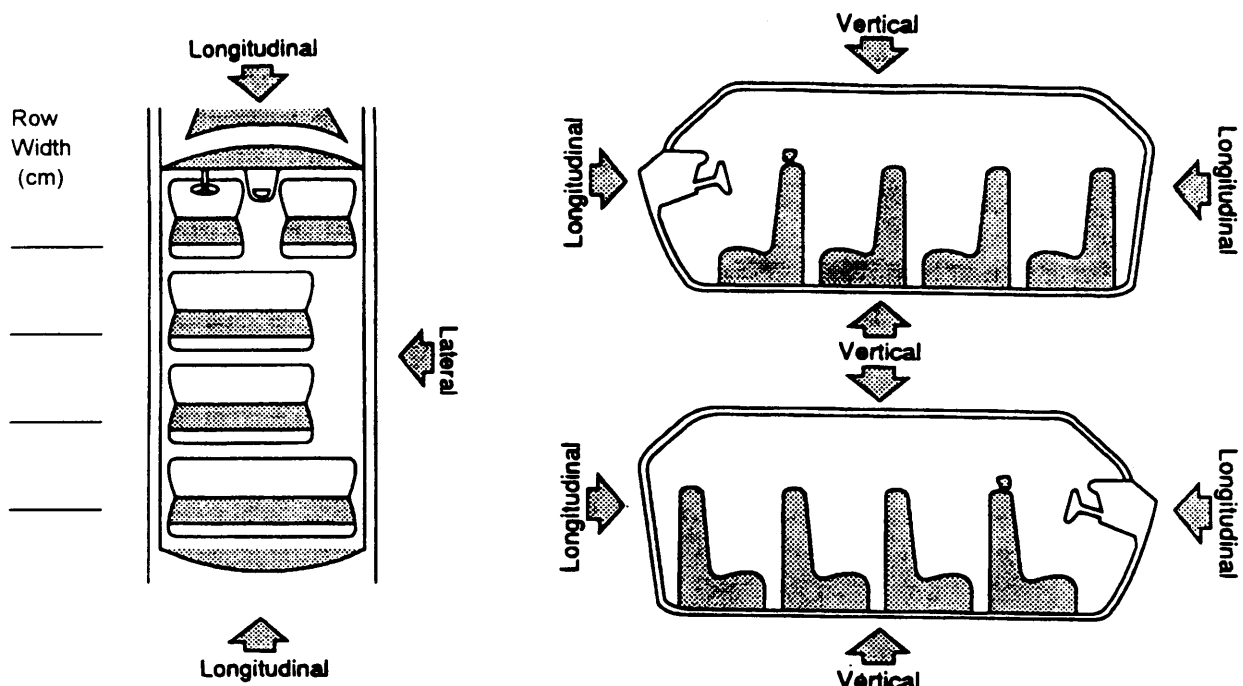
(7) Glazing removed prior to accident

(8) Glazing disintegrated by occupant contact

(9) Unknown if contacted by occupant

INTRUSION WORKSHEET

Note: Sketch intruded areas



LOCATION OF INTRUSION	INTRUDED COMPONENT	(All Measurements Are In Centimeters)			INTRUSION	DOMINANT CRUSH DIRECTION
		COMPARISON VALUE	—	INTRUDED VALUE	=	
			—		=	
			—		=	
			—		=	
			—		=	
			—		=	
			—		=	
			—		=	
			—		=	
			—		=	
			—		=	
			—		=	
			—		=	
			—		=	
			—		=	
			—		=	

Document no more than the 15 most severe intrusions

OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47. _____	48. _____	49. _____	50. _____
2nd	51. _____	52. _____	53. _____	54. _____
3rd	55. _____	56. _____	57. _____	58. _____
4th	59. _____	60. _____	61. _____	62. _____
5th	63. _____	64. _____	65. _____	66. _____
6th	67. _____	68. _____	69. _____	70. _____
7th	71. _____	72. _____	73. _____	74. _____
8th	75. _____	76. _____	77. _____	78. _____
9th	79. _____	80. _____	81. _____	82. _____
10th	83. _____	84. _____	85. _____	86. _____

LOCATION OF INTRUSION

Front Seat
 (11) Left
 (12) Middle
 (13) Right

Second Seat
 (21) Left
 (22) Middle
 (23) Right

Third Seat
 (31) Left
 (32) Middle
 (33) Right

Fourth Seat
 (41) Left
 (42) Middle
 (43) Right

(97) Catastrophic
 (98) Other enclosed area (specify) _____

(99) Unknown

INTRUDING COMPONENT*Interior Components*

- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A (A1/A2)-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Side panel - forward of the A1/A2-pillar
- (11) Door panel (side)
- (12) Side panel - rear of the B-pillar
- (13) Roof (or convertible top)
- (14) Roof side rail
- (15) Windshield
- (16) Windshield header
- (17) Window frame
- (18) Floor pan (includes sill)
- (19) Backlight header
- (20) Front seat back
- (21) Second seat back
- (22) Third seat back
- (23) Fourth seat back
- (24) Fifth seat back
- (25) Seat cushion
- (26) Back door/panel (e.g., tailgate)
- (27) Other interior component (specify): _____

Exterior Components

- (30) Hood
- (31) Outside surface of this vehicle (specify): _____
- (32) Other exterior object in the environment (specify): _____
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify): _____
- (99) Unknown

MAGNITUDE OF INTRUSION

- (1) ≥ 3 centimeters but < 8 centimeters
- (2) ≥ 8 centimeters but < 15 centimeters
- (3) ≥ 15 centimeters but < 30 centimeters
- (4) ≥ 30 centimeters but < 46 centimeters
- (5) ≥ 46 centimeters but < 61 centimeters
- (6) ≥ 61 centimeters
- (7) Catastrophic
- (9) Unknown

DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

STEERING RIM/SPOKE DEFORMATION

(All Measurements Are in Centimeters)

COMPARISON VALUE	—	DAMAGE VALUE	=	DEFORMATION
	—		=	
	—		=	
	—		=	
	—		=	

STEERING COLUMN

INSTRUMENT PANEL

87. Steering Column Type 1

- (1) Fixed column
 (2) Tilt column
 (3) Telescoping column
 (4) Tilt and telescoping column
 (8) Other column type (specify): _____

(9) Unknown

88. Tilt Steering Column Adjustment 4

- (0) No tilt steering column
 (1) Full up
 (2) Between full up and center
 (3) Center
 (4) Between center and full down
 (5) Full down
 (9) Unknown

89. Telescoping Steering Column Adjustment 4

- (0) No telescoping steering column
 (1) Full back
 (2) Between full back and midpoint
 (3) Midpoint
 (4) Between midpoint and full forward
 (5) Full forward
 (9) Unknown

90. Steering Rim/Spoke Deformation 4 4

- Code actual measured
 deformation to the nearest centimeter
 (00) No steering rim deformation
 (01-14) Actual measured value in centimeters
 (15) 15 centimeters or more
 (98) Observed deformation cannot be measured
 (99) Unknown

91. Location of Steering Rim/Spoke Deformation 4 4

- (00) No steering rim deformation

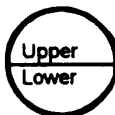
Quarter Sections

- (01) Section A
 (02) Section B
 (03) Section C
 (04) Section D



Half Sections

- (05) Upper half of rim/spoke
 (06) Lower half of rim/spoke
 (07) Left half of rim/spoke
 (08) Right half of rim/spoke



- (09) Complete steering wheel collapse
 (10) Undetermined location
 (99) Unknown

92. Odometer Reading 4 1 9,000

_____ kilometers

Code to the nearest 1,000 kilometers

- (000) No odometer
 (001) Less than 1,500 kilometers
 (500) 499,500 kilometers or more
 (999) Unknown

11 761 miles X 1.6093 = 18 927 kilometersSource: inspection93. Instrument Panel Damage from Occupant Contact? 4

- (0) No
 (1) Yes
 (9) Unknown

94. Type of Knee Bolster Covering 2

- (0) No knee bolster
 (1) Padded
 (2) Rigid plastic
 (8) Other (specify): _____
 (9) Unknown

95. Knee Bolsters Deformed from Occupant Contact? 1

- (0) No knee bolster
 (1) No deformation
 (2) Yes - deformation
 (9) Unknown

96. Did Glove Compartment Door Open During Collision(s)? 1

- (0) No glove compartment door
 (1) No - door did not open
 (2) Yes - door opened
 (9) Unknown

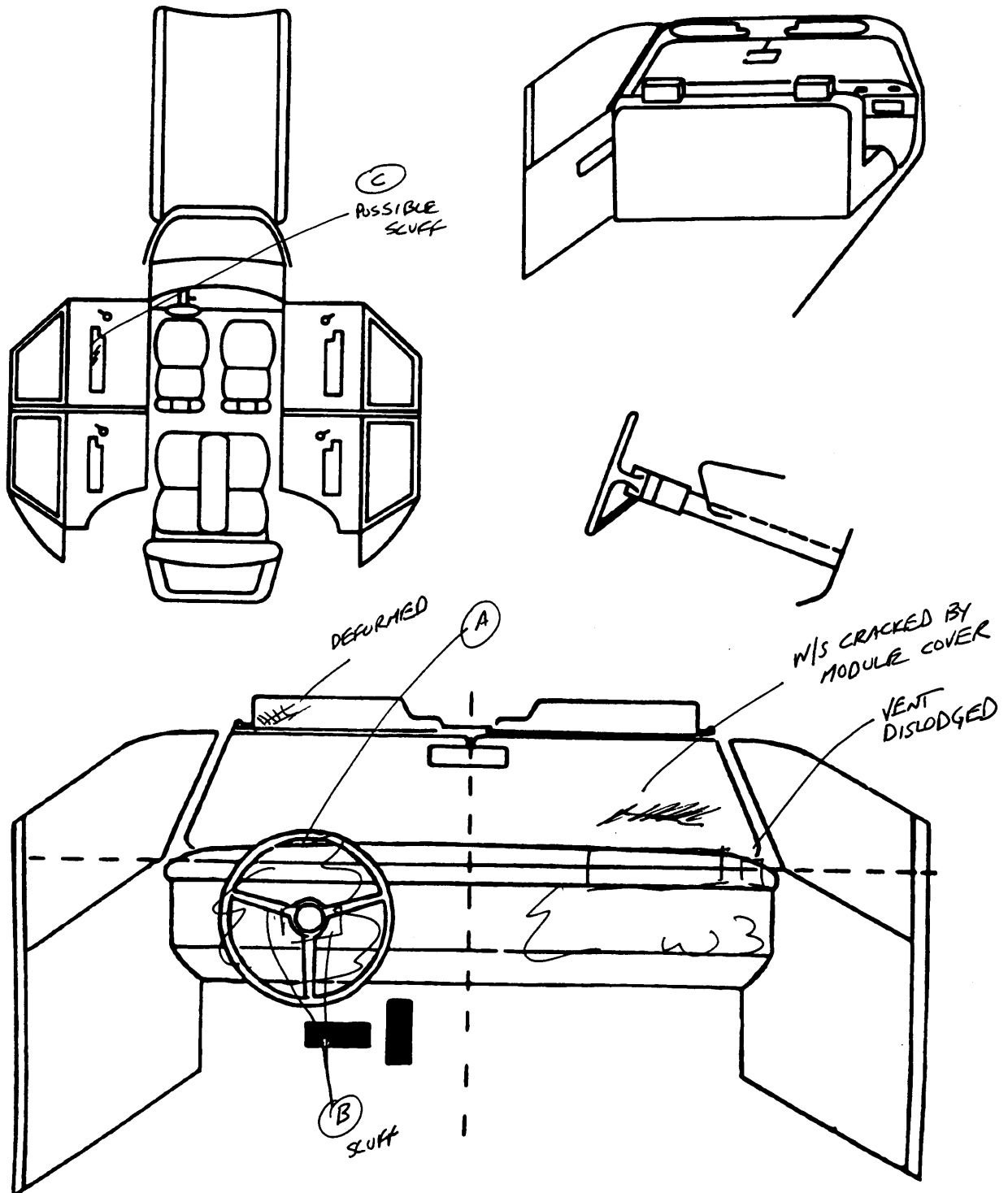
97. Adaptive (Assistive) Driving Equipment 4

- (0) No adaptive driving equipment
 (1) Adaptive driving equipment installed (Check all that apply.)
☐ Hand controls for braking/acceleration
☐ Steering control devices (attached to OEM steering wheel)
☐ Steering knob attached to steering wheel
☐ Low effort power steering (unit or device)
☐ Replacement steering wheel (i.e., reduced diameter)
☐ Joy-stick steering controls
☐ Wheelchair tie-downs
☐ Modification to seat belts (specify): _____
☐ Additional or relocated switches (specify): _____
☐ Raised roof
☐ Wall-mounted head rest (used behind wheelchair)
☐ Other adaptive device (specify): _____

(9) Unknown

VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure.
 Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.
 Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	170	41	FACE/HANDS	DEPLOYED	3
B	175	41	-	SCUFF/TAPE RESIDUE	3
C	452	41	-	SCUFF	3
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					
N					

FRONT

- (001) Windshield
 (002) Mirror
 (003) Sunvisor
 (004) Steering wheel rim
 (005) Steering wheel hub/spoke
 (006) Steering wheel (combination of codes 004 and 005)
 (007) Steering column, transmission selector lever, other attachment
 (008) Cellular telephone or CB radio
 (009) Add on equipment (e.g., tape deck, air conditioner)
 (010) Left instrument panel and below
 (011) Center instrument panel and below
 (012) Right instrument panel and below
 (013) Glove compartment door
 (014) Knee bolster
 (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
 (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
 (017) Windshield reinforced by exterior object, (specify):
 (019) Other front object (specify):

LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
 (052) Left side hardware or armrest
 (053) Left A (A1/A2)-pillar
 (054) Left B-pillar
 (055) Other left pillar (specify):
 (056) Left side window glass
 (057) Left side window frame
 (058) Left side window sill
 (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
 (060) Other left side object (specify):

RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests
 (102) Right side hardware or armrest
 (103) Right A (A1/A2)-pillar
 (104) Right B-pillar
 (105) Other right pillar (specify):
 (106) Right side window glass
 (107) Right side window frame
 (108) Right side window sill
 (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
 (110) Other right side object (specify):

INTERIOR

- (151) Seat, back support
 (152) Belt restraint webbing/buckle
 (153) Belt restraint B-pillar or door frame attachment point
 (154) Other restraint system component (specify):
 (155) Head restraint system
 (160) Other occupants (specify):
 (161) Interior loose objects
 (162) Child safety seat (specify):
 (163) Other interior object (specify):

AIR BAG

- (170) Air bag-driver side
 (175) Air bag compartment cover-driver side
 (180) Air bag-passenger side
 (185) Air bag compartment cover-passenger side
 (190) Other air bag (specify)
 (195) Other air bag compartment cover (specify)

ROOF

- (201) Front header
 (202) Rear header
 (203) Roof left side rail
 (204) Roof right side rail
 (205) Roof or convertible top

FLOOR

- (251) Floor (including toe pan)
 (252) Floor or console mounted transmission lever, including console
 (253) Parking brake handle
 (254) Foot controls including parking brake

REAR

- (301) Backlight (rear window)
 (302) Backlight storage rack, door, etc.
 (303) Other rear object (specify):

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
 (402) Steering control devices (attached to OEM steering wheel)
 (403) Steering knob attached to steering wheel
 (405) Replacement steering wheel (i.e., reduced diameter)
 (406) Joy stick steering controls
 (407) Wheelchair tie-downs
 (408) Modification to seat belts, (specify):
 (409) Additional or relocated switches, (specify):
 (410) Raised roof
 (411) Wall mounted head rest (used behind wheel chair)
 (412) Other adaptive device (specify):

CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
 (2) Probable
 (3) Possible
 (9) Unknown

MANUAL RESTRAINTS

NOTES: Encode the applicable data for **each seat position** in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a Child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
FIRST	Availability	4		4
	Evidence of usage	YES		NO
	Used in this crash?	YES		φ
	Proper Use	YES		φ
	Failure Modes	1		φ
	Anchorage Adjustment	1		1
SECOND	Availability			
	Evidence of usage			
	Used in this crash?			
	Proper Use			
	Failure Modes			
	Anchorage Adjustment			
OTHER	Availability			
	Evidence of usage			
	Used in this crash?			
	Proper Use			
	Failure Modes			
	Anchorage Adjustment			

Manual (Active) Belt System Availability

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available - type unknown

Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

(9) Unknown

Manual (Active) Belt System Use

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used - type unknown
- (08) Other belt used (specify):
- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat - type unknown
- (18) Other belt used with child safety seat (specify):
- (99) Unknown if belt used

Proper Use of Manual (Active) Belts

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):
- (8) Other improper use of manual belt system (specify):

(9) Unknown

Shoulder Belt Upper Anchorage Adjustment

- (0) No shoulder belt
- (1) No upper anchorage adjustment for shoulder belt

Adjustable shoulder Belt Upper Anchorage

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

Manual (Active) Belt Failure Modes During Accident

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

- (6) Broken retractor
- (7) Combination of above (specify):

(8) Other manual belt failure (specify):

(9) Unknown

AUTOMATIC RESTRAINTS

NOTES: Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

AIR BAGS

		Left Front	Right Front	Other
F I R S T	Availability/Function	/	/	
	Deployment	/	/	
	Failure	/	/	

Air Bag System Availability/Function (0) Not equipped/not available (1) Air bag <i>Non-functional</i> (2) Air bag disconnected (specify): _____ (3) Air bag not reinstalled (9) Unknown	Frontal Air Bag System Deployment (This Occupant Position) (0) Not equipped/not available (1) Deployed during accident (as a result of impact) (2) Deployed inadvertently just prior to accident (3) Deployed, accident sequence undetermined (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical) (5) Unknown if deployed (7) Nondeployed (9) Unknown	Air Bag(s) Deployment, <u>Other</u> Than First Seat Frontal (This Occupant Position) (0) Not equipped with an <u>other</u> air bag (1) Deployed during accident (as a result of impact) (2) Deployed inadvertently just prior to accident (3) Deployed, details unknown (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical) (5) Unknown if deployed (7) Nondeployed (9) Unknown
Are There Indications of Air Bag System Failure? (This Occupant Position) (0) Not equipped/not available (1) No (2) Yes (specify): _____ (9) Unknown		

AUTOMATIC BELTS

		Left	Right
F I R S T	Availability/Function		
	Use		
	Type		
	Proper Use		
	Failure Modes		

Automatic (Passive) Belt System Availability/Function (0) Not equipped/not available (1) 2 point automatic belts (2) 3 point automatic belts (3) Automatic belts - type unknown <i>Non-functional</i> (4) Automatic belts destroyed or rendered inoperative (9) Unknown	Proper Use of Automatic (Passive) Belt System (0) Not equipped/not available/not used (1) Automatic belt used properly (2) Automatic belt used properly with child safety seat <i>Automatic Belt Used Improperly</i> (3) Automatic shoulder belt worn under arm (4) Automatic shoulder belt worn behind back (5) Automatic belt worn around more than one person (6) Lap portion of automatic belt worn on abdomen (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): _____ (8) Other improper use of automatic belt system (specify): _____ (9) Unknown	Automatic (Passive) Belt Failure Modes During Accident (0) Not equipped/not available/not in use (1) No automatic belt failure(s) (2) Torn webbing (stretched webbing not included) (3) Broken buckle or latchplate (4) Upper anchorage separated (5) Other anchorage separated (specify): _____ (6) Broken retractor (7) Combination of above (specify): _____ (8) Other automatic belt failure (specify): _____ (9) Unknown
Automatic (Passive) Belt System Use (0) Not equipped/not available/destroyed or rendered inoperative (1) Automatic belt in use (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (3) Automatic belt use unknown (9) Unknown		
Automatic (Passive) Belt System Type (0) Not equipped/not available (1) Non-motorized system (2) Motorized system (9) Unknown		

FIRST SEAT FRONTAL AIR BAGS

NOTES: Encode the applicable data *for the driver and first seat passenger* in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

	Driver	Passenger
Type of air bag?	1	1
Flaps open at tear points?	2	2
Flaps damaged?	1	1
Air bag damaged?	41	41
Source of air bag damage	41	41
Air bag tethered?	2	1
Air bag have vent ports?	2(2)	2(22)
Other occupant contact air bag?	1	1
Occupant wearing eyewear?	1	1

Type of Air Bag

- (0) Not equipped/not available
- (1) Original manufacturer installed system
- (2) Retrofitted air bag
- (3) Replacement air bag
- (8) Unknown type of air bag
- (9) Unknown

Did Air Bag Module Cover Flap(s) Open At Designated Tear Points?

- (0) Not equipped/not available
- (1) No
- (2) Yes
- (3) Deployed, unknown if flap(s) opened at designated tear points
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

Were Air Bag Module Cover Flap(s) Damaged?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):
- (3) Deployed, unknown if air bag module cover flap(s) damaged
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

Was There Damage To The Air Bag?

- (00) Not equipped/not available
- (01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured
- (03) Cut
- (04) Torn
- (05) Holed
- (06) Burned
- (07) Abraded
- (88) Other damage (specify):

- (95) Damaged, details unknown
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

Source of Air Bag Damage

- (00) Not equipped/not available
- (01) Not damaged
- (02) Object worn by occupant, (specify):
- (03) Object carried by occupant, (specify):
- (04) Adaptive/assistive controls, (specify):
- (05) Fire in vehicle
- (06) Thermal burns
- (07) Rescue or emergency efforts
- (88) Other damage source (specify):

- (95) Damaged, unknown source
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

Was The Air Bag Tethered?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of tether straps):

- (3) Deployed, unknown if tethered
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

Did The Air Bag Have Vent Ports?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of vent ports):
- (3) Deployed, unknown if vent ports present
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

Was the Air Bag in this Occupant's Position Contacted by Another Occupant?

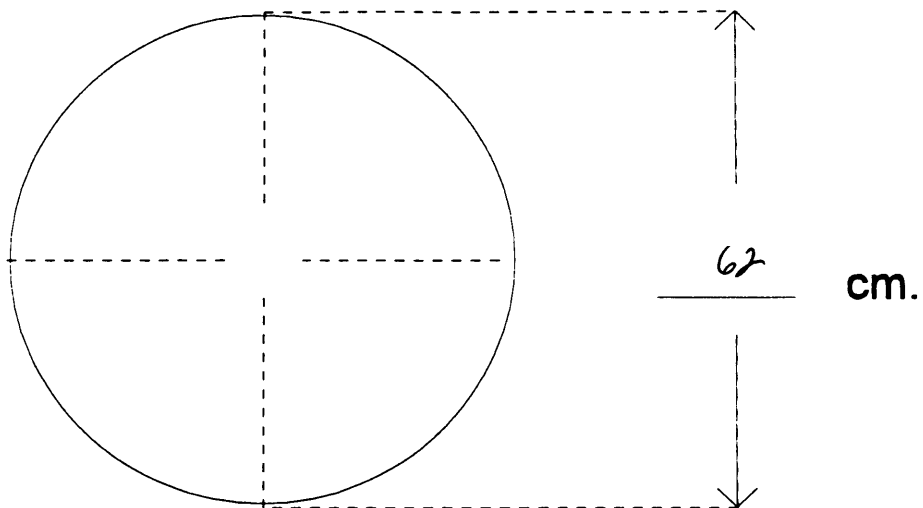
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):
- (3) Deployed, unknown if other occupant contact to air bag
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

Was This Occupant Wearing Eye-wear?

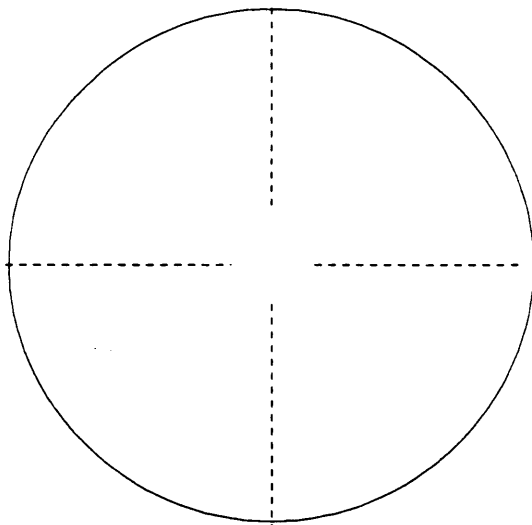
- (0) Not equipped/not available
- (1) No
- (2) Eyeglasses/sunglasses
- (3) Contact lenses
- (4) Deployed, unknown if eyewear worn
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

DRIVER AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Front)



2. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Back)



DRIVER AIR BAG SKETCHES (Cont'd)

3. DRIVER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap

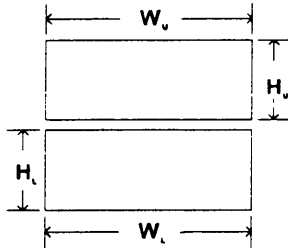
b. Lower Flap

width (W_U) 17.5

width (W_L) 17.5

height (H_U) 7.5

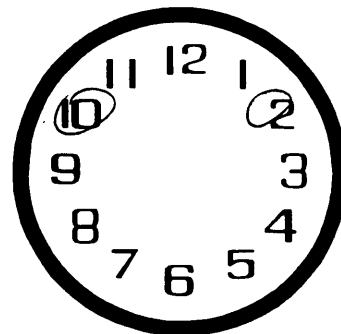
height (H_L) 7



4. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE

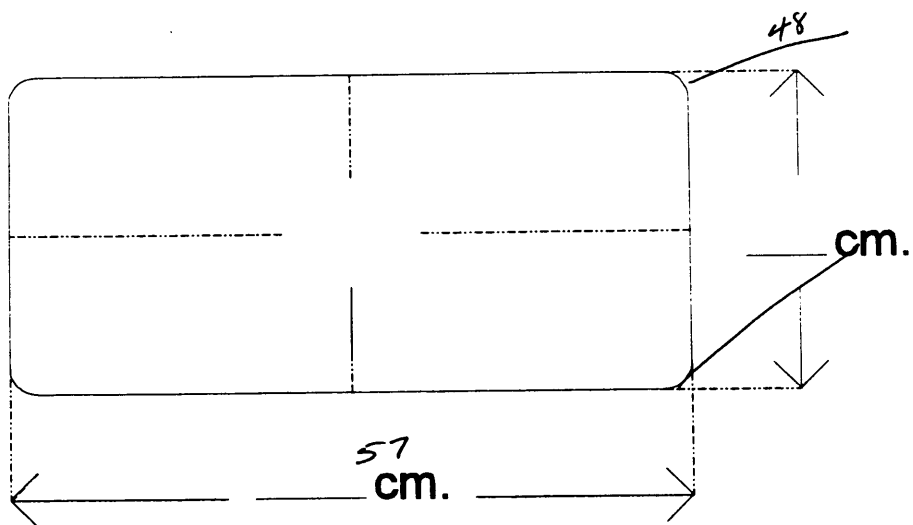
5. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

6. SKETCH LOCATION OF CIRCULAR AIR BAG VENT PORTS

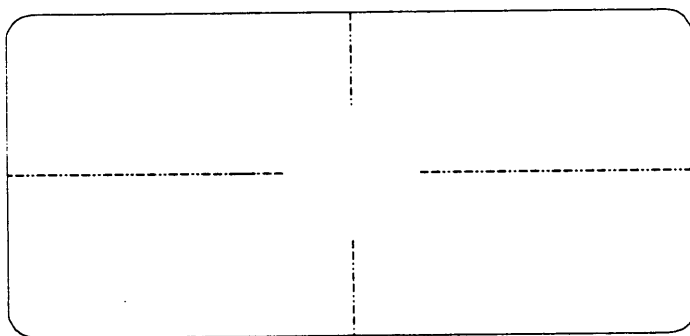


PASSENGER AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Front)



2. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Back)

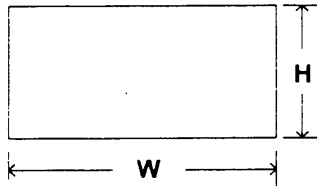


PASSENGER AIR BAG SKETCHES (Cont'd)

3. PASSENGER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

a. Flap

width (W) 35
height (H) 11

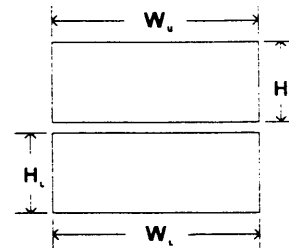


4. PASSENGER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap

b. Lower Flap

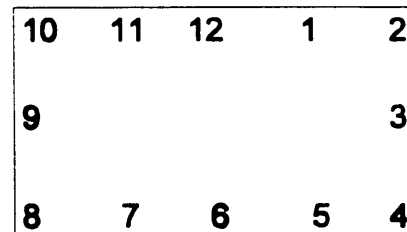
width (W_U) _____ width (W_L) _____
height (H_U) _____ height (H_L) _____



5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE

6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

7. SKETCH LOCATION OF RECTANGULAR AIR BAG VENT PORTS



"OTHER" AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON "OTHER" AIR BAG (Front)

2. SKETCH DAMAGE AND CONTACT EVIDENCE ON "OTHER" AIR BAG (Back)

"OTHER" AIR BAG SKETCHES (Cont'd)

3. SKETCH AIR BAG MODULE FLAP AND SIZE OR OPENING FOR AIRBAG

4. SKETCH AIR BAG VENT PORTS

HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
FIRST	Head Restraint Type/Damage	1		1
	Seat Type	41		41
	Seat Performance	1		1
	Seat Orientation	1		1
	Seat Track Position	1/3		1/3
	Seat Back Incline Pre/Post Impact	23		23
SECOND	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			
	Seat Track Position			
	Seat Back Incline Pre/Post Impact			
THIRD	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			
	Seat Track Position			
	Seat Back Incline Pre/Post Impact			
OTHER	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			
	Seat Track Position			
	Seat Back Incline Pre/Post Impact			

**DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE
(I.E., UNUSUAL OCCUPANT CONTACT PATTERN)**

HEAD RESTRAINTS/SEAT EVALUATION**Head Restraint Type/Damage by Occupant at This Occupant Position**

- (0) No head restraints
- (1) Integral — no damage
- (2) Integral — damaged during accident
- (3) Adjustable — no damage
- (4) Adjustable — damaged during accident
- (5) Add-on — no damage
- (6) Add-on — damaged during accident
- (8) Other
Specify): _____
- (9) Unknown

Seat Type (this Occupant Position)

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify): _____
- (10) Box mounted seat (i.e., van type)
- (99) Unknown

Seat Performance (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed (specify): _____
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): _____
- (7) Combination of above (specify): _____
- (8) Other (specify): _____
- (9) Unknown

Seat Orientation (this Occupant Position)

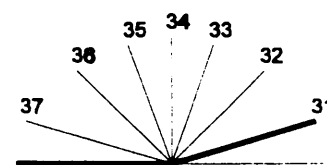
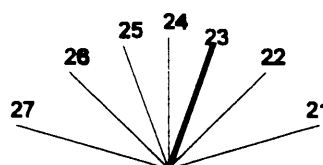
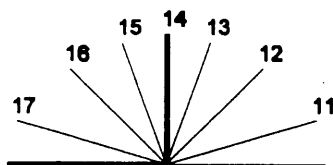
- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify): _____
- (9) Unknown

Seat Track Adjusted Position Prior To Impact

- (0) Occupant not seated or no seat
- (1) Non-adjustable seat track
- Adjustable Seat Track*
- (2) Seat at forward most track position
- (3) Seat between forward most and middle track positions
- (4) Seat at middle track position
- (5) Seat between middle and rear most track positions
- (6) Seat at rear most track position
- (9) Unknown

Seat Back Incline Prior and Post Impact

- (00) Occupant not seated or no seat
- (01) Not adjustable
- Upright prior to impact*
- (11) Moved to completely rearward position
- (12) Moved to rearward midrange position
- (13) Moved to slightly rearward position
- (14) Retained pre-impact position
- (15) Moved to slightly forward position
- (16) Moved to forward midrange position
- (17) Moved to completely forward position
- Slightly reclined prior to impact*
- (21) Moved to completely rearward position
- (22) Moved to rearward midrange position
- (23) Retained pre-impact position
- (24) Moved to upright position
- (25) Moved to slightly forward position
- (26) Moved to forward midrange position
- (27) Moved to completely forward position
- Completely reclined prior to impact*
- (31) Retained pre-impact position
- (32) Moved to rearward midrange position
- (33) Moved to slightly rearward position
- (34) Moved to upright position
- (35) Moved to slightly forward position
- (36) Moved to forward midrange position
- (37) Moved to completely forward position
- (99) Unknown



Coding diagrams for Seat Back Incline Position Prior and Post Impact

**DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE
(I.E., UNUSUAL OCCUPANT CONTACT PATTERN)**

CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number						
1. Type of Child Safety Seat						
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage						
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat					

1. Type of Child Safety Seat

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify):

-
- (8) Unknown child safety seat type
 - (9) Unknown if child safety seat used

2. Child Safety Seat Orientation

- (00) No child safety seat
- Designed for Rear Facing for This Age/Weight
- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify):
- (09) Unknown orientation

-
- Designed for Forward Facing for This Age/Weight
 - (11) Rear facing
 - (12) Forward facing
 - (18) Other orientation (specify):

-
- (19) Unknown orientation

-
- Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

-
- (29) Unknown orientation

- (99) Unknown if child safety seat used

3. Child Safety Seat Harness Usage

4. Child Safety Seat Shield Usage

- 5. Child Safety Seat Tether Usage**
 Note: Options Below Are Used for Variables 3-5.
 (00) No child safety seat

Not Designed with Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

- (99) Unknown if child safety seat used

6. Child Safety Seat Make/Model
 (Specify make/model and occupant number)

EJECTION/ENTRAPMENT DATA

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

EJECTION No [☒] Yes [☐]

Describe indications of ejection and body parts involved in partial ejection(s):

Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

Ejection

- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, Unknown degree
- (9) Unknown

Ejection Area

- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear

(7) Roof

- (8) Other area (e.g., back of pickup, etc.) (specify):

- (9) Unknown

Ejection Medium

- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify):

(5) Integral structure

- (8) Other medium (specify):

- (9) Unknown

Medium Status (Immediately Prior to Impact)

- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

ENTRAPMENT No [☒] Yes [☐]

Describe entrapment mechanism: _____

Component(s): _____

(Note in vehicle interior diagram)

National Highway Traffic Safety
AdministrationNATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

4. Occupant Number

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex

(1) Male

(2) Female-not reported pregnant

(3) Female-pregnant-1st trimester(1st-3rd month)

(4) Female-pregnant-2nd trimester(4th-6th month)

(5) Female-pregnant-3rd trimester(7th-9th month)

(6) Female-pregnant-term unknown

(9) Unknown

7. Occupant's Height

Code actual height to the nearest
centimeter.

(999) Unknown

61 inches X 2.54 = 155 centimeters

8. Occupant's Weight

Code actual weight to the nearest
kilogram.

(999) Unknown

115 pounds X .4536 = 52 kilograms

9. Occupant's Role

(1) Driver

(2) Passenger

(9) Unknown

OCCUPANT'S SEATING

10. Occupant's Seat Position

Front Seat

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

Second Seat

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

Third Seat

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

Fourth Seat

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture

(0) Normal posture

Abnormal posture

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with another
occupant or to look out a rear window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in front of
seat

(8) Other abnormal posture (specify):

(9) Unknown

PSU NUMBER

DS95

CASE NUMBER

AB24

VEHICLE NUMBER

01

OCCUPANT NUMBER

01

OCCUPANT ASSESSMENT FORM

THE FOLLOWING DATA IS NOT INCLUDED IN THIS CASE:

☐ ENTIRE FORM

☒ PAGE NUMBER (S) 2

PSU NUMBER	<u>DS95</u>
CASE NUMBER	<u>AB24</u>
VEHICLE NUMBER	<u>01</u>
OCCUPANT NUMBER	<u>01</u>

OCCUPANT ASSESSMENT FORM

THE FOLLOWING DATA IS NOT INCLUDED IN THIS CASE:

☐ ENTIRE FORM

☒ PAGE NUMBER (S) 3

POLICE REPORTED RESTRAINT USE

28. Police Reported Belt Use 9

- (0) None used
 (1) Police did not indicate belt use
 (2) Shoulder belt
 (3) Lap belt
 (4) Lap and shoulder belt
 (5) Belt used, type not specified
 (6) Child safety seat
 (7) Automatic belt
 (8) Other type belt, (specify):

(9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 9

- (0) No air bag available
 (1) Police did not indicate air bag availability/function
 (2) Deployed
 (3) Not deployed
 (4) Unknown if deployed
 (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

- ☐ Not equipped/not available/destroyed or rendered inoperative
☐ Vehicle inspection
☐ Official injury data
☒ Driver/occupant interview
☐ Other (specify):

☐ Unknown if belt used

AIR BAG SYSTEM FUNCTION

30. Frontal Air Bag System 1

Availability/Function
 (This Occupant Position)

- (0) Not equipped/not available
 (1) Air bag

Non-functional

(2) Air bag disconnected (specify):

- (3) Air bag not reinstalled
 (9) Unknown

31. Frontal Air Bag System Deployment 1
 (This Occupant Position)

- (0) Not equipped/not available
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

32. Other Than First Seat Frontal Air Bag 4

Availability/Function
 (This Occupant Position)

- (0) Not equipped/not available
 (1) Air bag

Non-functional

(2) Air bag disconnected (specify):

- (3) Air bag not reinstalled
 (9) Unknown

Specify type of "other" air bag present:

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 4

- (0) Not equipped with an "other" air bag
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

34. Are There Indications of Air Bag System Failure? 1
 (This Occupant Position)

- (0) Not equipped/not available
 (1) No
 (2) Yes (specify):

(9) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 1

- (0) Not equipped/not available
(1) No previous accidents

Yes

- (2) Previous accident(s) without deployment(s)
(3) One previous accident with deployment
(4) More than one previous accident with at least one deployment
(8) Previous accidents, unknown deployment status
(9) Unknown

36. Type of Air Bag 1

- (0) Not equipped/not available
(1) Original manufacturer installed system
(2) Retrofitted air bag
(3) Replacement air bag
(8) Unknown type of air bag
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 9

- (0) Not equipped/not available
(1) No prior maintenance
(2) Yes, prior maintenance (specify): _____

(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 4 1

- (00) Not equipped/not available
_____ Code the accident event sequence number that initiated the air bag deployment
(96) Deployed, unknown event
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

39. CDC For Air Bag Deployment Impact 1

- (0) Not equipped/not available
(1) Highest delta V
(2) Second highest delta V
(3) Other non-coded delta V (specify): _____

- (6) Deployed, unknown event
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

40. Longitudinal Component of +Delta V For Air Bag - 9 9 6

Deployment Impact

(-000) Not equipped/not available

Code the value of the delta V for the impact that initiated the air bag deployment

- (-996) Deployment, unknown longitudinal Delta V
(-997) Not deployed
(-998) Unknown if deployed
(-999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 2

- (0) Not equipped/not available
(1) No
(2) Yes
(3) Deployed, unknown if flap(s) opened at designated tear points
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 1

- (0) Not equipped/not available
(1) No
(2) Yes (specify): _____
(3) Deployed, unknown if air bag module cover flap(s) damaged
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

43. Was There Damage To The Air Bag? 4 1

- (00) Not equipped/not available
(01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured
(03) Cut
(04) Torn
(05) Holed
(06) Burned
(07) Abraded
(88) Other damage (specify): _____

- (95) Damaged, details unknown
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

PSU NUMBER	<u>DS 95</u>
CASE NUMBER	<u>AB 24</u>
VEHICLE NUMBER	<u>01</u>
OCCUPANT NUMBER	<u>01</u>

OCCUPANT ASSESSMENT FORM

THE FOLLOWING DATA IS NOT INCLUDED IN THIS CASE:

☐ ENTIRE FORM

☒ PAGE NUMBER (S) 6

PSU NUMBER	<u>DS 95</u>
CASE NUMBER	<u>A324</u>
VEHICLE NUMBER	<u>01</u>
OCCUPANT NUMBER	<u>01</u>

OCCUPANT ASSESSMENT FORM

THE FOLLOWING DATA IS NOT INCLUDED IN THIS CASE:

☐ ENTIRE FORM

☒ PAGE NUMBER (S) 7

CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 4 4 4

(000) No child safety seat

Applicable codes are found in your NASS CDS
Data Collection, Coding and Editing

(950) Built-in child safety seat

(997) Other make/model (specify):

(998) Unknown make/model

(999) Unknown if child safety seat used

56. Type of Child Safety Seat 4

(0) No child safety seat

(1) Infant seat

(2) Toddler seat

(3) Convertible seat

(4) Booster seat - with shield

(5) Booster seat - without shield

(7) Other type child safety seat (specify):

(8) Unknown child safety seat type

(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 4 4

(00) No child safety seat

Designed for Rear Facing for This Age/Weight

(01) Rear facing

(02) Forward facing

(08) Other orientation (specify):

(09) Unknown orientation

Designed For Forward Facing for This Age/Weight

(11) Rear facing

(12) Forward facing

(18) Other orientation (specify):

(19) Unknown orientation

*Unknown Design or Orientation For This
Age/Weight, or Unknown Age/Weight*

(21) Rear facing

(22) Forward facing

(28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 4 459. Child Safety Seat Shield Usage 4 460. Child Safety Seat Tether Usage 4 4Note: Options below applicable to
Variables OA58-OA60.

(00) No child safety seat

Not Designed With Harness/Shield/Tether(01) After market harness/shield/tether
added, not used

(02) After market harness/shield/tether used

(03) Child safety seat used, but no after market
harness/shield/tether added(09) Unknown if harness/shield/tether
added or used*Designed With Harness/Shield/Tether*

(11) Harness/shield/tether not used

(12) Harness/shield/tether used

(19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

(21) Harness/shield/tether not used

(22) Harness/shield/tether used

(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES**61. Injury Severity (Police Rating)**9

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

62. Treatment - Mortality6

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):

Nonfatal

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (7) Treatment - other (specify):
- (8) Transported to a medical facility-unknown if treated
- (9) Unknown

63. Type Of Medical Facility (for Initial Treatment)4

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

(9) Unknown

64. Hospital Stay4 9

(00) Not Hospitalized

Code the number of days (up through 60) that the occupant stayed in hospital.

(61) 61 days or more

(99) Unknown

65. Working Days Lost4 4

Code the number of days (up through 60) that the occupant lost from work due to the accident

(00) No working days lost

(61) 61 days or more

(62) Fatally injured

(97) Not working prior to accident

(99) Unknown

STOP WORK HERE**VARIABLES 66-74****TO BE CODED BY THE ZONE CENTER**

TO BE CODED BY THE ZONE CENTER**INJURY CONSEQUENCES****66. Time to Death**φ φ

_____ Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)

- (00) Not fatal
(96) Fatal - ruled disease
(99) Unknown

67. 1st Medically Reported Cause of Deathφ φ**68. 2nd Medically Reported Cause of Death**φ φ**69. 3rd Medically Reported Cause of Death**φ φ

_____ Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death

- (00) Not fatal or no additional causes
(96) Mode of death given but specific injuries are not linked to cause of death. (specify): _____

- (97) Other result (includes fatal ruled disease) (specify): _____

- (99) Unknown

70. Number of Recorded Injuries for This Occupantφ 4

_____ Code the actual number of injuries recorded for this occupant.

- (00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

TRAUMA DATA**71. Glasgow Coma Scale (GCS) Score (at Medical Facility)**φ 1

- (00) Not injured
(01) Injured - not treated at medical facility
(02) No GCS Score at medical facility
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.
(97) Injured, details unknown
(99) Unknown if injured

72. Was the Occupant Given Blood?1

- (1) No - blood not given
(2) Yes - blood given
(specify units): _____
(9) Unknown if blood given

73. Arterial Blood Gases (ABG) - HCO₃φ 1

- (00) Not injured
(01) Injured, ABGs not measured or reported
(02-50) Code the actual value of the HCO₃
(96) ABGs reported, HCO₃ unknown
(97) Injured, details unknown
(99) Unknown if injured

BELT USE DETERMINATION**74. Primary Source of Belt Use Determination**3

- (0) Not equipped/not available/destroyed or rendered inoperative
(1) Vehicle inspection
(2) Official injury data
(3) Driver/occupant interview
(8) Other (specify): _____
(9) Unknown if belt used



OCCUPANT INJURY FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

3. Vehicle Number

2. Case Number - Stratum

4. Occupant Number

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	A.I.S. - 90					Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number	
		Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity					Aspect
1st	5. <u>7</u>	6. <u>7</u>	7. <u>9</u>	8. <u>04</u>	9. <u>02</u>	10. <u>1</u>	11. <u>2</u>	12. <u>170</u>	13. <u>2</u>	14. <u>1</u>	15. <u>00</u>
2nd	16. <u>7</u>	17. <u>7</u>	18. <u>9</u>	19. <u>04</u>	20. <u>02</u>	21. <u>1</u>	22. <u>2</u>	23. <u>170</u>	24. <u>2</u>	25. <u>1</u>	26. <u>00</u>
3rd	27. <u>7</u>	28. <u>7</u>	29. <u>9</u>	30. <u>04</u>	31. <u>02</u>	32. <u>1</u>	33. <u>1</u>	34. <u>175</u>	35. <u>2</u>	36. <u>1</u>	37. <u>00</u>
4th	38. <u>7</u>	39. <u>7</u>	40. <u>9</u>	41. <u>04</u>	42. <u>02</u>	43. <u>1</u>	44. <u>1</u>	45. <u>175</u>	46. <u>2</u>	47. <u>1</u>	48. <u>00</u>
5th	49. <u> </u>	50. <u> </u>	51. <u> </u>	52. <u> </u>	53. <u> </u>	54. <u> </u>	55. <u> </u>	56. <u> </u>	57. <u> </u>	58. <u> </u>	59. <u> </u>
6th	60. <u> </u>	61. <u> </u>	62. <u> </u>	63. <u> </u>	64. <u> </u>	65. <u> </u>	66. <u> </u>	67. <u> </u>	68. <u> </u>	69. <u> </u>	70. <u> </u>
7th	71. <u> </u>	72. <u> </u>	73. <u> </u>	74. <u> </u>	75. <u> </u>	76. <u> </u>	77. <u> </u>	78. <u> </u>	79. <u> </u>	80. <u> </u>	81. <u> </u>
8th	82. <u> </u>	83. <u> </u>	84. <u> </u>	85. <u> </u>	86. <u> </u>	87. <u> </u>	88. <u> </u>	89. <u> </u>	90. <u> </u>	91. <u> </u>	92. <u> </u>
9th	93. <u> </u>	94. <u> </u>	95. <u> </u>	96. <u> </u>	97. <u> </u>	98. <u> </u>	99. <u> </u>	100. <u> </u>	101. <u> </u>	102. <u> </u>	103. <u> </u>
10th	104. <u> </u>	105. <u> </u>	106. <u> </u>	107. <u> </u>	108. <u> </u>	109. <u> </u>	110. <u> </u>	111. <u> </u>	112. <u> </u>	113. <u> </u>	114. <u> </u>

INJURY SOURCES

FRONT

- (001) Windshield
- (002) Mirror
- (003) Sunvisor
- (004) Steering wheel rim
- (005) Steering wheel hub/spoke
- (006) Steering wheel (combination of codes 004 and 005)
- (007) Steering column, transmission selector lever, other attachment
- (008) Cellular telephone or CB radio
- (009) Add on equipment (e.g., tape deck, air conditioner)
- (010) Left instrument panel and below
- (011) Center instrument panel and below
- (012) Right instrument panel and below
- (013) Glove compartment door
- (014) Knee bolster
- (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (017) Windshield reinforced by exterior object (specify): _____
- (019) Other front object (specify): _____

LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
- (052) Left side hardware or armrest
- (053) Left A (A1/A2)-pillar
- (054) Left B-pillar
- (055) Other left pillar (specify): _____
- (056) Left side window glass
- (057) Left side window frame
- (058) Left side window sill
- (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (060) Other left side object (specify): _____

RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests

- (102) Right side hardware or armrest
- (103) Right A (A1/A2)-pillar
- (104) Right B-pillar
- (105) Other right pillar (specify): _____
- (106) Right side window glass
- (107) Right side window frame
- (108) Right side window sill
- (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (110) Other right side object (specify): _____

INTERIOR

- (151) Seat, back support
- (152) Belt restraint webbing/buckle
- (153) Belt restraint B-pillar or door frame attachment point
- (154) Other restraint system component (specify): _____
- (155) Head restraint system
- (160) Other occupants (specify): _____
- (161) Interior loose objects
- (162) Child safety seat (specify): _____
- (163) Other interior object (specify): _____

AIR BAG

- (170) Air bag-driver side
- (171) Air bag-driver side and eyewear
- (172) Air bag-driver side and jewelry
- (173) Air bag-driver side and object held
- (174) Air bag-driver side and object in mouth
- (175) Air bag compartment cover-driver side
- (176) Air bag compartment cover-driver side and eyewear
- (177) Air bag compartment cover-driver side and jewelry
- (178) Air bag compartment cover-driver side and object held
- (179) Air bag compartment cover-driver side and object in mouth
- (180) Air bag-passenger side
- (181) Air bag-passenger side and eyewear
- (182) Air bag-passenger side and jewelry

- (183) Air bag-passenger side and object held
- (184) Air bag-passenger side and object in mouth
- (185) Air bag compartment cover-passenger side
- (186) Air bag compartment cover-passenger side and eyewear
- (187) Air bag compartment cover-passenger side and jewelry
- (188) Air bag compartment cover-passenger side and object held
- (189) Air bag compartment cover-passenger side and object in mouth
- (190) Other air bag (specify): _____
- (195) Other air bag compartment cover (specify): _____

ROOF

- (201) Front header
- (202) Rear header
- (203) Roof left side rail
- (204) Roof right side rail
- (205) Roof or convertible top

FLOOR

- (251) Floor (including toe pan)
- (252) Floor or console mounted transmission lever, including console
- (253) Parking brake handle
- (254) Foot controls including parking brake

REAR

- (301) Backlight (rear window)
- (302) Backlight storage rack, door, etc.
- (303) Other rear object (specify): _____

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
- (402) Steering control devices (attached to OEM steering wheel)
- (403) Steering knob attached to steering wheel
- (405) Replacement steering wheel (i.e., reduced diameter)
- (406) Joy stick steering controls
- (407) Wheelchair tie-downs
- (408) Modification to seat belts, (specify): _____
- (409) Additional or relocated switches, (specify): _____
- (410) Raised roof

- (411) Wall mounted head rest (used behind wheel chair)
- (412) Other adaptive device (specify): _____

EXTERIOR OF OCCUPANT'S VEHICLE

- (451) Hood
- (452) Outside hardware (e.g., outside mirror, antenna)
- (453) Other exterior surface or tires (specify): _____
- (454) Unknown exterior objects

EXTERIOR OF OTHER MOTOR VEHICLE

- (501) Front bumper
- (502) Hood edge
- (503) Other front of vehicle (specify): _____
- (504) Hood
- (505) Hood ornament
- (506) Windshield, roof rail, A-pillar
- (507) Side surface
- (508) Side mirrors
- (509) Other side protrusions (specify): _____
- (510) Rear surface
- (511) Undercarriage
- (512) Tires and wheels
- (513) Other exterior of other motor vehicle (specify): _____
- (514) Unknown exterior of other motor vehicle

OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

- (551) Ground
- (598) Other vehicle or object (specify): _____
- (599) Unknown vehicle or object

NONCONTACT INJURY

- (601) Fire in vehicle
- (602) Flying glass
- (603) Other noncontact injury source (specify): _____
- (604) Air bag exhaust gases
- (697) Injured, unknown source

OCCUPANT INJURY CLASSIFICATION

Body Region	Specific Anatomic Structure	Level of Injury	Aspect
(1) Head		Specific injuries are assigned consecutive two-digit numbers beginning with 02.	(1) Right
(2) Face			(2) Left
(3) Neck	<u>Vessels, Nerves, Organs.</u>		(3) Bilateral
(4) Thorax	<u>Bones, Joints</u> are assigned consecutive two digit numbers beginning with 02.		(4) Central
(5) Abdomen			(5) Anterior
(6) Spine			(6) Posterior
(7) Upper Extremity		To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.	(7) Superior
(8) Lower Extremity	The exceptions to this rule apply to:		(8) Inferior
(9) Unspecified			(9) Unknown
			(0) Whole region
Type of Anatomic Structure	<u>Whole Area</u>		
(1) Whole Area	(02) Skin - Abrasion		
(2) Vessels	(04) Skin - Contusion		
(3) Nerves	(06) Skin - Laceration		
(4) Organs (includes Muscles/ligaments)	(08) Skin - Avulsion		
(5) Skeletal (includes joints)	(10) Amputation		
(6) Head - LOC	(20) Burn		
(9) Skin	(30) Crush		
	(40) Degloving		
	(50) Injury - NFS		
	(90) Trauma, other than mechanical		
	<u>Head - LOC</u>		
	(02) Length of LOC		
	(04) Level		
	(06) of		
	(08) Consciousness		
	(10) Concussion		
	<u>Spine</u>		
	(02) Cervical		
	(04) Thoracic		
	(06) Lumbar		

Abbreviated Injury Scale

- (1) Minor Injury
- (2) Moderate Injury
- (3) Serious Injury
- (4) Severe Injury
- (5) Critical Injury
- (6) Maximum (untreatable)
- (7) Injured, unknown severity

SOURCE OF INJURY DATA

OFFICIAL RECORDS

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): _____
- (9) Police

INJURY SOURCE

CONFIDENCE LEVEL

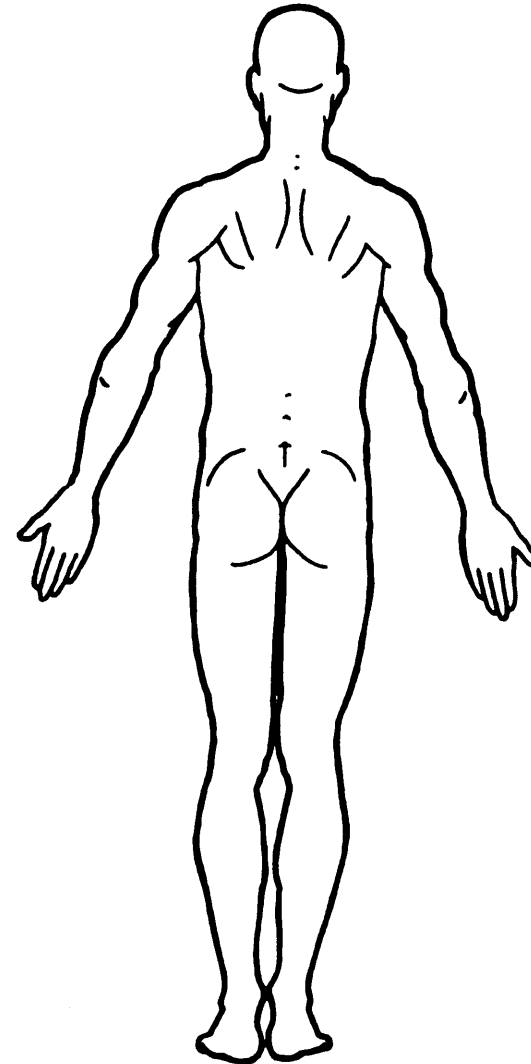
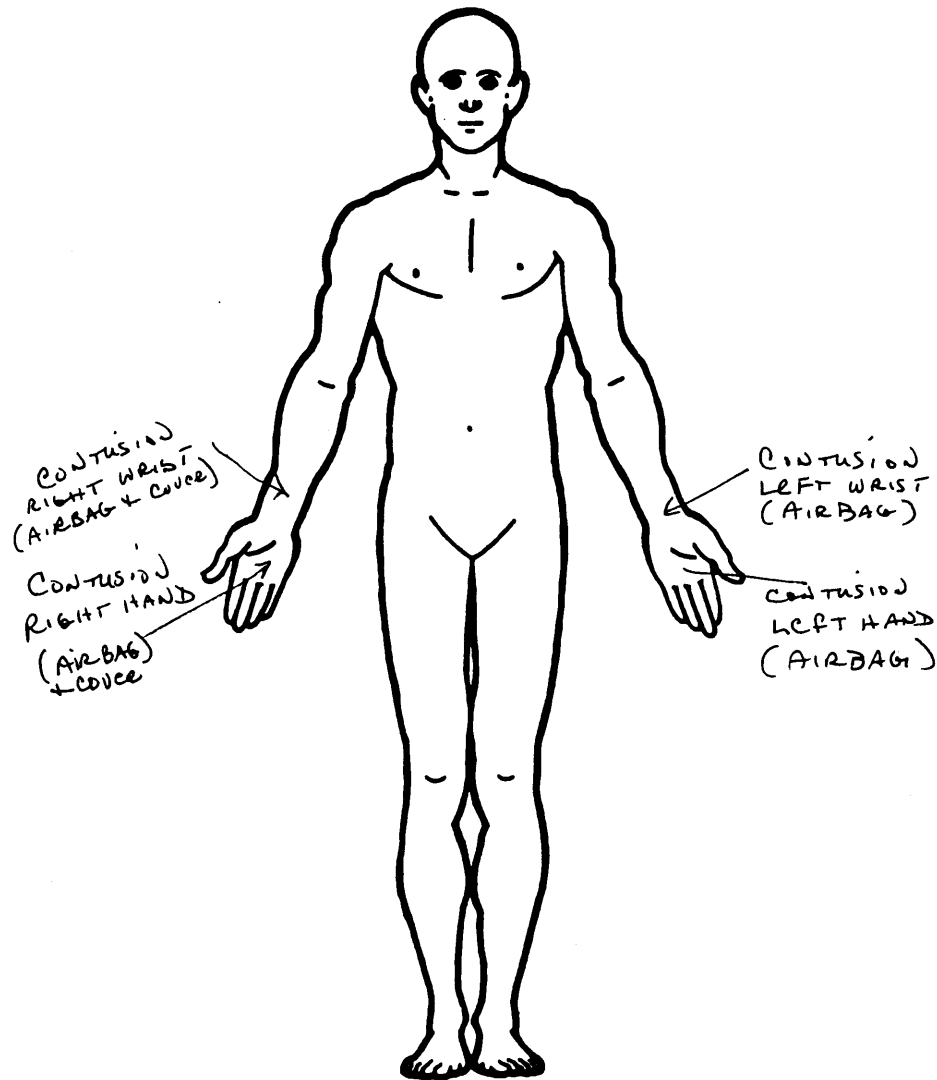
- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

DIRECT/INDIRECT INJURY

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



OFFICIAL INJURY DATA —INTERNAL INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

